

1969 annual guide tape recording

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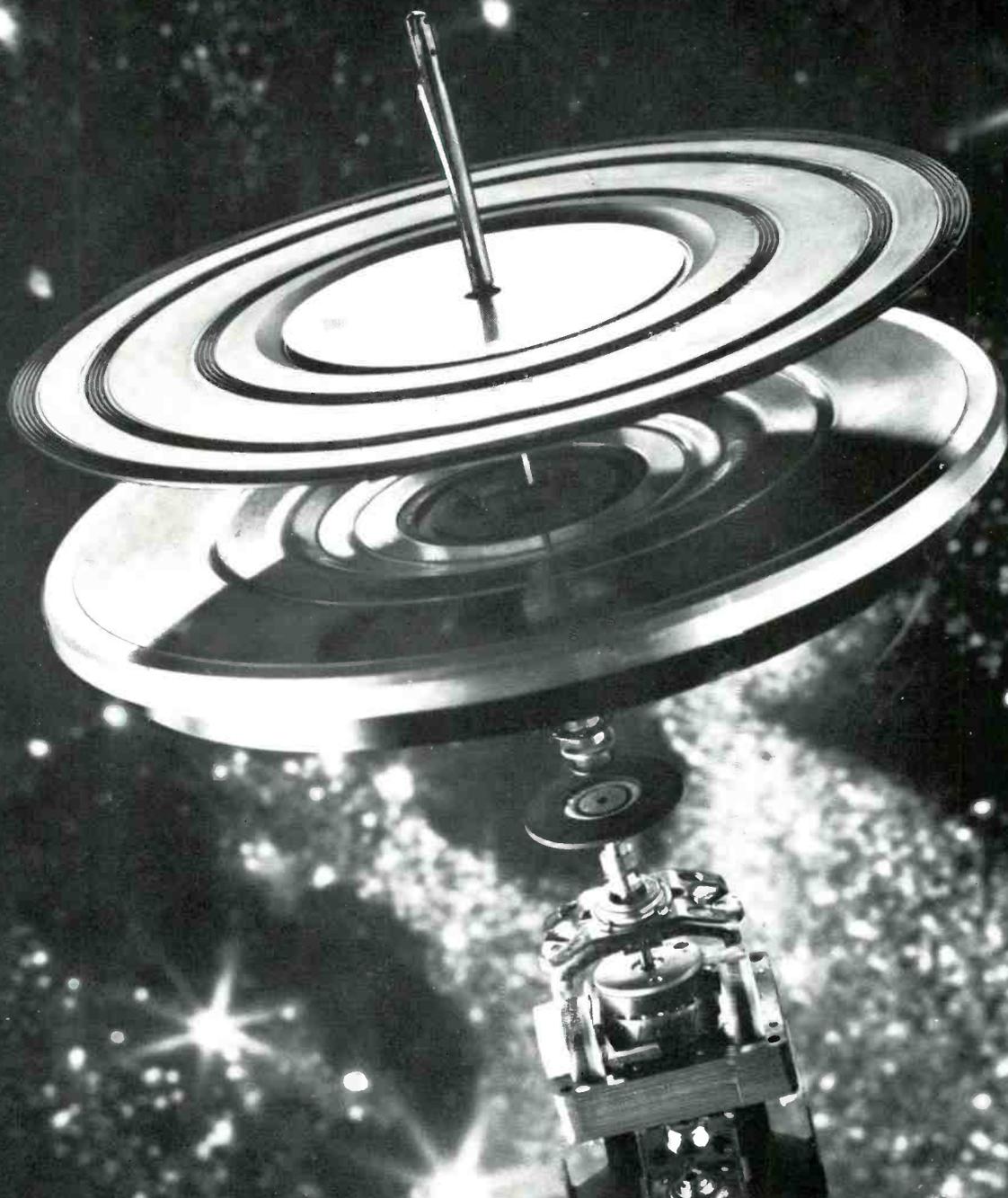
**Everything You Need to
Know About Tape Recording**

How to Save on Repair Bills

**What's New in
Cassettes and Cartridges**

**SPECIAL FEATURE:
How to Make Money
with Your Recorder**





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consumers guide to tape recording

1969 ANNUAL BUYING GUIDE

VOLUME 16, No. 3

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TAPE NOTES

Eight Track Tape Alive and Well

NEW YORK — The eight track market is alive and well, according to those with a major stake in marketing eight track products.

Motorola Automotive Products Division vp Oscar Kusisto estimates that the total market for eight track tape, players and accessories will reach \$625 million at retail this year, and "may well exceed one billion dollars by 1972."

Kusisto sees retail eight track player sales, both home and automobile, nearing \$300 million in 1969, with cartridge sales of \$280 million, and nearly \$50 million in accessory sales. He predicts there will be 450,000 original equipment players installed in 1969 model cars, and that there will be 2,000,000 after market units sold.

RCA Records vp Irwin Tarr gives a somewhat more conservative estimate of the industry. He sees total eight track retail sales as nearing \$500 million this year, as compared with \$350 million last year.

RCA Records has also revised its profile of the eight track cartridge buyer, according to vp-general manager Norman Racusin. An RCA survey shows that the average cartridge buyer is male (85%), married (57%), and well-educated (90% at least high school graduates). Half are under 30; 30% own home units, and an additional 20% intend to buy home units.

Sound-In Offers Unusual Tapes

FAIRFIELD, N. J.—An eight-track stereo tape cartridge composed of wolf howls, or Indian war cries, or a French police horn? These and 15 other equally enchanting sounds are now available on "Sound-In" four and eight-track cartridge tapes, a product of Livingston Audio Products Corp.

The tapes, designed to retail for \$3.99, have been tested in the Chicago, Detroit and Los Angeles markets. The registered name of "Sound-In" has a library of several hundred sounds that will be released during the summer and fall.

Those available at the present time include: cattle, cats, tigers, wolves, ooghha horns, French police horns, police sirens, fire engines, machine guns, locomotives, thunder and lightning, and fog horns.

New Accessories For Cassettes

Robins Beefs Up Line

FLUSHING, N. Y.—Robins Industries Corp. has introduced a number of new tape accessories designed specifically to take advantage of the booming cassette equipment market.

One of these is a 12-unit album that can be used for storing cassettes. Outwardly the album has the appearance of a library book, with covers made to look like Morocco leather and tooled gold lettering on the spine. The covers measure 9 $\frac{1}{4}$ " by 10 $\frac{3}{8}$ ", with a 1 $\frac{1}{4}$ " spine.

Inside, each cover holds six cassettes in molded plastic compartments contoured to the standard cassette configuration. Each compartment has built-in stops to keep the tape from going slack.

Robins has also come out with a group of mailers to take advantage of the convenience of cassettes. "They are perfect for correspondence," said Bob Cohen, Robins' sales manager, "or for sending reports or instructions back to the office, for holiday, birthday or anniversary greetings, or for note taking. And kids are swapping their cassette pop-tunes as easily as mailing a letter."

Robins is issuing two types of mailers, one built of plastic and one of cardboard. Self-stick mailing labels are sold with the mailers, or may be purchased separately.

List price on the cassette album is \$3.30. The plastic mailers are listed at \$1.30 for a package of three, while a package of 18 cardboard mailers lists for \$1.65.

IRISH VIDEO HAS NEW SIZE TAPE

NEW YORK — Irish Electronic Enterprises recently announced the introduction of half inch professional video tape in 845 foot lengths mounted on 4 $\frac{5}{8}$ " reels. This new size, #182-5, fits all battery operated portable video recorders including Sony and Shibaden. The reel is also designed for use on larger half inch machines for added convenience.

Irish video tape is available in all sizes to fit all standard half inch

video machines including Sony, Concord, Craig, Panasonic, G. E., Shibaden, and Apeco. Irish video tape is also available to fit the one inch video machines for Ampex, IVC, and Bell & Howell.

Panasonic Aids Mountain Climbers

NEW YORK—A 10 member American mountain climbing team left this month to tackle the world's sixth highest mountain, Dhaulagiri, in Nepal. The expedition is sponsored by the American Alpine Club, National Geographic Magazine and Panasonic. Panasonic equipped the team with several kinds of communications gear designed to make the potentially hazardous climb safer. By using the Panasonic equipment, the expedition's base camp will be able to maintain a constant communications surveillance with all members of the team.

For use in the camp, Panasonic provided an eleven band radio that features five antennas, a push-button band selector, an illuminated band selector, and AFC on FM. In conjunction with the multi-band unit, the 10 member team will rely on two sets of two-channel transceivers. Depending upon the terrain, transceivers can transmit up to 10 miles. To help keep an accurate record of their journey, the climbers will rely on two small cassette-loaded Panasonic tape recorders.

Dhaulagiri, is some 26,800 feet high. It gained its reputation as the hardest of the 8,000 meter peaks when the first seven expeditions attempting to climb it failed. The present expedition will attempt a new route, the southeast ridge. Experts have said that the ridge is technically, very difficult to master because of its many walls of sheer ice, rock and broken ground.

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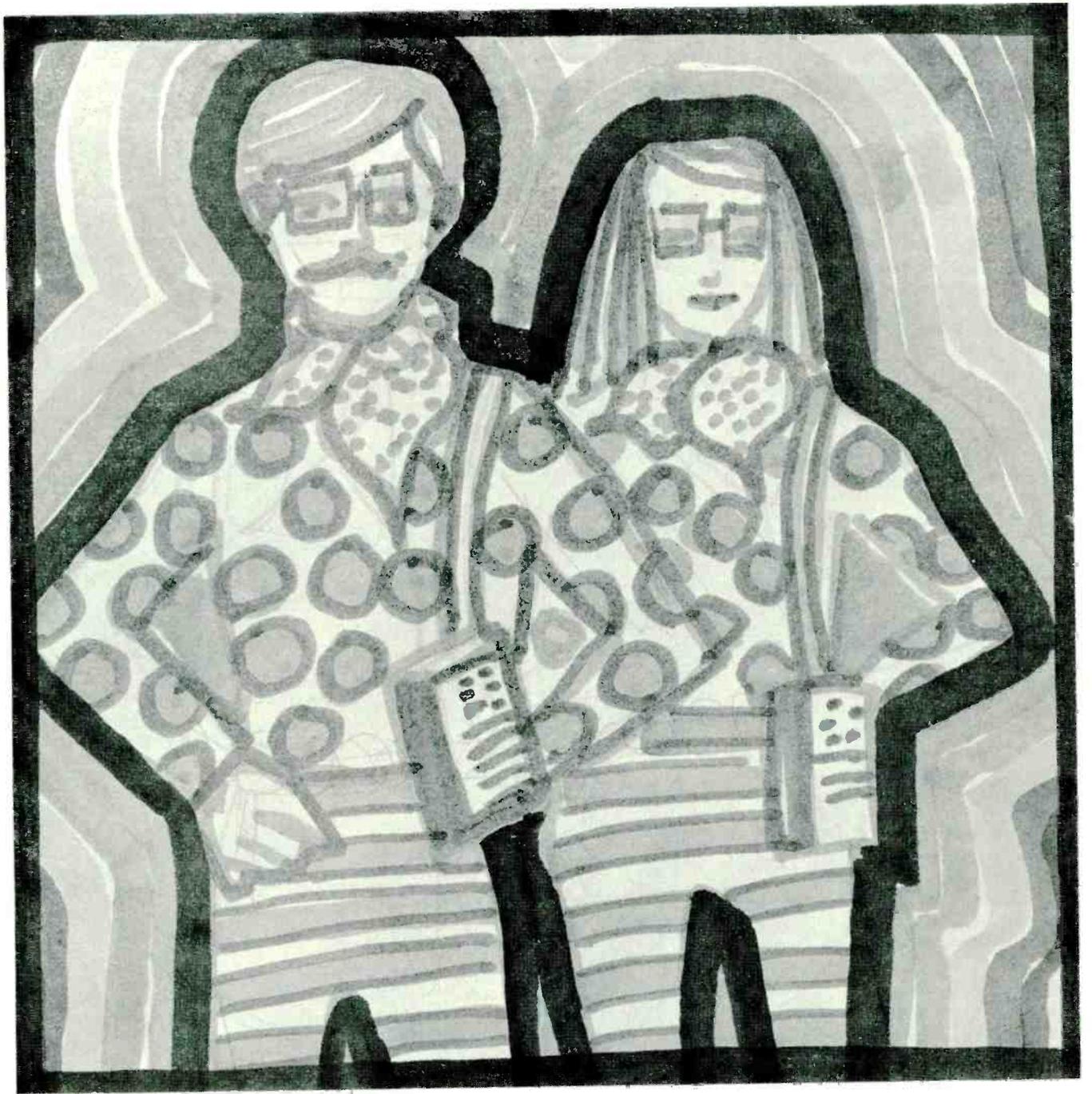


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Cartridge Or Cassette: Which To Buy?

by Robert Angus

Nothing has shaken up the world of tape recording like the introduction in 1964 of the tape cartridge; and the emergence in the years since 1965 of the tape cassette. This year, more people will buy one or the other than bought reel tape recorders during the last five years. Which system they select may depend on what factors are most important to them—and may well influence what shape all tape recorders will take in the 1970s.

What both systems offer is convenience and compactness. No more need to thread tape past the heads of a recorder; all you have to do is to snap a cartridge or cassette into place. You don't have to worry about tape breaking or spilling; it's conveniently sealed in a plastic shell. You don't need to be a professional engineer to operate the player—all you have to do is insert the plastic wafer and press the right button. It's so simple you can do it while driving to work, or while attending class.

Small wonder, then, that cartridges and cassettes

have become so popular with teenagers (including girls) and young housewives who never would have dreamed of handling a full-sized recorder. In most cases, these new recorder enthusiasts have no interest in recording; they view the car tape cartridge player or carry-along cassette portable as a new, versatile system for playing back music in places where phonographs can't go.

Actually, although there are a handful of recorder models on the market, such as Roberts' 778 series, the tape cartridge is essentially a playback system. It features a single loop of tape, both ends joined together, which feeds outward from a single hub past tape playback heads and rewinds on the outside of the tape pack (but inside the plastic shell). The structure of the cartridge makes it difficult to guard against accidental erasure during recording; and makes the fast forward and rewind feature found on most reel recorders virtually impossible to build into the machines.



Basically, there are three types of cartridge in common use: the four-track type; eight-track and Playtapes. The first two are essentially similar, utilizing standard quarter-inch tape in plastic shells which are similar in size and configuration (and can get intermixed in compatible players). Both are designed primarily for automotive use, though there are a number of home players and decks available, and a few battery-operated portable models.

Because it has the support of all of the major record companies and domestic automobile manufacturers, eight-track has won wide acceptance. It offers a catalogue of more than 4000 titles, with most new pop albums being released simultaneously in disc and cartridge form. Eight-track cartridges generally cost about \$1 more than records, and players range from about \$49.95 to more than \$159. These include car models, battery portables, decks and console models or players integrated into other home entertainment products.

Four-track, extremely popular among teenagers in southern California, never achieved the popularity nationally of cassette or eight-track—partly because there are only some 2400 four-track cartridge titles available, and these are mainly teen-oriented. Four-track has the potential of producing the maximum fidelity of all the cartridge systems because, while the tapes are recorded at the same speed as are the other two endless loop systems— $3\frac{3}{4}$ ips, the tracks are twice as wide as those in the other systems, which means less tape hiss and background noise. However, most four-track equipment manufacturers have decided to forego fidelity in favor of lower-priced equipment. Four-track players start as low as \$29.95, and run to about \$89.95.

Playtapes, the third endless loop system, utilizes a miniaturized cartridge which fits in a carry-along player about the size of a big transistor radio. Until recently, most Playtapes players have been low-fi mono-only units, but in recent months, Playtapes

has introduced a handful of car tape players, home players, radio-tape combinations and even a combination Playtapes-eight-track player. The company's catalogue leans heavily on teen material from the catalogues of such companies as ABC-Paramount, Dunhill, Buddah, MGM, Verve, Reprise, Warner Brothers, and others.

The cassette would seem to offer the least chance of all the tape systems for high fidelity reproduction. It records at a speed of $1\frac{7}{8}$ ips, which means limited frequency response; it uses a $1/7$ " tape containing four tiny tracks, which means more interference from background tape hiss; and it runs left and right channels alongside each other, instead of separating them by an intervening track, as the other systems do. That means reduced channel separation. Yet it's the cassette which is being developed by such high fidelity manufacturers as Ampex, Fisher, H. H. Scott, Harman-Kardon, Teac, Sony, Norelco, Bell & Howell, 3M-Wollensak and others. Engineers for these and other companies concede that the cassette has technical limitations. But they believe that narrow-gap heads and new tape oxides can make up any frequency loss or increase in background noise caused by the slow recording speed.

The cassette actually features two miniature tape reels encased in plastic with a strip of tape between them, anchored at each end. Because the system operates just like a miniature tape recorder, it's easy to record, to incorporate fast forward and fast reverse in it.

Cassettes have been around since Norelco first introduced a battery-operated portable using the system in 1965. However, they got a big shot in the arm early this year when Capitol Records announced it was joining Ampex Stereo Tapes and a group of independent labels in providing prerecorded cassettes. Very soon, Victor and Columbia Records will join the fold, making available just about

every important popular and classical artist and just about every kind of recorded entertainment. At the moment, there are about 2500 different prerecorded cassettes.

Cassette players range in price from \$9.95 to \$595, and include battery-operated playback-only models, playback-record portables, car stereo models, automatic changers, and even combination cassette-radio and cassette-stereo compact models.

Which system is best, and how do they compare with reel recording? If fidelity is your bag, you'd better stick with your old reel recorder. None of the cartridge systems offers better than a frequency range of about 100-12,000 cps, although the better cassette and eight-track machines push those limits pretty hard. For some reason, the endless loop systems—particularly after they've been in use a while—develop higher wow & flutter characteristics than do cassettes or reel tapes. If you want the best possible sound from tape, you'll find it on reels.

However, the better cassette and eight-track players do produce satisfactory sound—about what you might expect from a good FM transistor radio or inexpensive stereo compact. Even the under-\$100 models sound just fine when played through a good high fidelity component system or stereo console.

Because of their compactness, systems like Play-tapes and the cassette are extremely popular with carry-along items. In fact, the cassette occupies only about one-fifth the space of a cartridge containing similar amount of music, while the Play-tapes unit is similarly small. Because the plastic shells are small, players don't have to be as big or heavy as those for cartridges. On the other hand, until recently, cartridge players were much easier to load and unload than cassette car units, making the former more desirable under the dashboard. The introduction of several cassette players incorporating the Staar slot-loading technique may erase that difference this year.

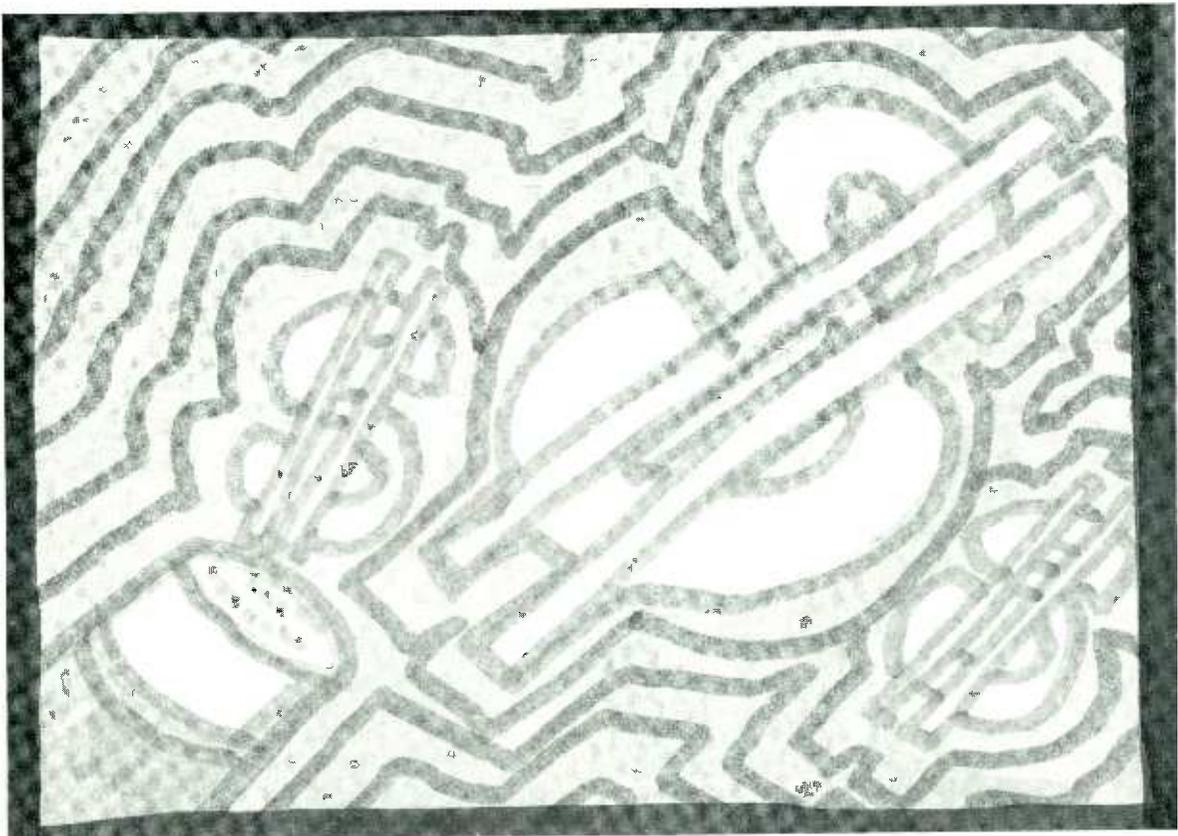
As we've already noted, the cassette is the only system which records as well as plays back—which makes it an ideal electronic notebook for businessmen or students; a sound camera for travellers who want to record as well as take pictures; or for the man who wants to build his own library of music from records or radio. Because the tape is sealed in plastic, it's more difficult to edit than reel tape, and it's virtually impossible to gauge correctly the amount of tape you'll need for most recording jobs (one recording of the Beethoven Fifth Symphony, for example, proved to be 31 minutes long—too long for a 30-minute track and much too short for a 45-minute one). On the other hand, you don't have to worry about tape spilling or splices coming undone.

A problem with all car systems, whether they be Playtape, cassette, four or eight track, has been that they invite thieves. Some estimates have placed the number of cartridge systems or cartridges removed from cars as high as 20 per cent of all cars in which they're installed. Police advise owners to lock their cars whenever they park, and keep all cartridges out of sight—in the glove compartment, under a seat, or in a plain carrying case of some kind. Cartridges scattered along the back window ledge or visible on a seat are an open invitation to a smashed car window and theft of your cartridge system, police warn.

Ultimately, it seems, there will be a single tape cartridge system. Most audio experts expect the cassette, with its advantages of compactness, recordability and ease of handling, to emerge by the mid-1970s as THE system. Most record companies believe just as strongly that eight-track will be the winner, maintaining its current lead over other systems. Both agree, however, that reel recording will be with us for many years to come, to provide maximum fidelity for the audiophile, and the joys of editing and making his own tapes for the hobbyist.

A Portfolio of Moneymaking Ideas

Have you ever wanted to make money with your tape recorder, but weren't sure quite how to go about it? The articles on the following pages tell how four people, with no special knowledge or equipment to start with, used their recorders to tape weddings, college drama, church choirs and other subjects. Learn not only what they did, but how—how to create a profit-making recording studio in your basement; the problems you'll face in taping a wedding, and how to solve them; how to convert a master tape into long-playing records (and just how much each step costs); or how to produce interesting tapes for a local radio station. Anybody can use a tape recorder for fun and profit. Why not you?



Turn Talk Into Dollars

by Pierce Alan Coryell

If you want an expensive, portable, battery-operated tape recorder and don't have the money, go bravely to the nearest local radio station and say, "How would you like to buy me an expensive, portable, battery-operated tape recorder?" Don't wait for an answer but immediately promise in return to do a series of half hour, ad lib discussion programs on tape on location with local topics, people, and places.

If the program director says "Yes," you have gained two objectives: (1) the recorder, and (2) the pleasure of turning talk into dollars.

It is easier than you think. Topics for local stations are those that network radio cannot handle—the national or international topic from the local angle ("A Central Pennsylvania View of Unifying the Armed Forces") or an exclusively local topic ("Why Fort Augusta at the juncture of the Susquehanna River branches discouraged the French and so we speak English"). Furthermore, you have plenty of well-informed people right in your area. People who live and breathe a subject and can speak extemporaneously and well. Put two fire chiefs in a firehouse with you, add coffee and a recorder—and you'll save an easy half hour on the problems of fighting fires.

Making money with your tape recorder by doing interviews requires certain ingredients. A must is a local radio station interested in reflecting the lives and problems and special knowledge of people who affect the local community. Second, you need a good machine. I used a Trans-Flyweight by Amplifier Corporation of America with an Electro-Voice microphone at 7½ ips capturing 10,000 cycles—because we were on FM as well as AM. With the increase in the number of FM stations and new requirements of separate programming of AM-FM transmitters, it doesn't hurt to have a recorder

that meets NAB standards. Also, a good machine eliminates the technician. There's just you, the recorder, a cup of coffee apiece and guests. No extra hands present to invite self-consciousness. Also, because you will be recording in various locations with differing acoustics, you need all the help a good machine can give. And battery-operation is desirable. How many electric plugs are there outdoors in state parks? Third, you must have informed local people. They are all around, if you look: lawyers, psychiatrists, ministers, doctors, teachers, college faculty, state policemen, postmaster, probation officers, prison inmates—the list is as long as the telephone book. Fourth, you as moderator must be interested—not necessarily informed. In this condition, once you have agreed with your guests on areas to be covered in the particular discussion, you find their answers feed the next questions, and you never quite cover the topic. The first time the Chairman of the State Board of Parole and two assistants talked with me in a private dining room (the hotel was glad for the mention) about Prisoners and Parole, after we turned off the recorder someone said, "Why, we never even got to sex criminals and parole." Two months later we did. Fifth, choose a place to record that's logically connected with the topic and nearby so the listeners can identify. When we spoke with civil defense directors on survival after a blast we did it from the office of the director for most of central Pennsylvania. Three postmasters drank my coffee in the basement of the Sunbury post office while we discussed the postal system. (Did you know pony express riders had to be thin, wiry orphans in their late teens?) From a police office in Northumberland the chief and a teacher of driver's education talked about drag strips, how old a boy should be to drive, and what makes a good driver.

With these five ingredients, you've got it—adult education that is entertaining. Now, entertainment, in part, means making a subject interesting to the listener. You must pick men and women who know their topic. When John Glenn went round and round the world, the heads of the Departments of Science, Sociology, and Religion at Bucknell University discussed the effect on our region. Religion would need to replace world terms with those more universal and galactic. Our green enclave between Pittsburgh and Philadelphia will be swallowed up. Pennsylvania Dutch farmers in the future will have to switch to hydroponics. And, oh yes, you also learn it is a mistake to record in a narrow, glassed-in lounge. It was a great discussion but, acoustically, we were at the bottom of a well.

Any topic can be made interesting if seasoned with a little relevant emotion. From the Federal Penitentiary at Lewisburg we recorded a civilian teacher of a class in Personality Adjustment talking to three inmates about adjustment to life outside after a stay inside as well as about some problems of adjustment inside. The class listened intently, and to did a lot of Sunday School classes when the tape was played over the air.

From a recording standpoint I made perhaps my best program in a large living room seated on a psychiatrist's couch talking to our host, and to a psychologist and minister about marriage counseling. Wall to wall carpeting, over-stuffed furniture, and sharp minds helped.

We have recorded from court rooms with district attorneys, from a state police barracks bedroom with policemen, from the living room of the President of Suquehanna University with the President of Bucknell as his guest (they told me their universities were an asset to our region—and in such beautiful English), from a local library (when I asked the two librarians with whom they'd seek shelter on a stormy night) a borrower who read "Forever Amber" or one who read books on astronomy, (they giggled at 7½ ips), from a bank boardroom, from a schoolroom, from deep in a store window (Buying on Time), even from the radio station (The Role of Radio in the Life of Our Region) and once, and once only, from a state park on a bluff 200 feet above US Route 15. We picked up traffic going from Florida to Canada, a diesel locomotive in the distance, birds in the trees, insects in the grass, wind past the microphone on our picnic table and a discussion with three historians on pioneers to our river valley.

In addition to the great outdoors there are certain other hazards. In urban areas there are programs, usually on FM, where an enormously gifted announcer sits down with one man for an hour or more conversation on an esoteric subject. There are programs on AM stations where a topic is chosen

and listeners telephone in their opinions. I believe the former programs, however interesting in other respects, tend to a certain monotony—only two voices too long. I think the latter programs encourage a certain exhibitionism in uninformed minds. Remember, the goal is not just education but entertaining education; and for that I think half an hour is enough of the listener's attention to demand. Further, if you are seriously trying to provide education, then your guests should be people who can illuminate the subject, not merely give an opinion about it.

When I proposed my taped program to our local station, I suggested the tapes be played on FM after the 11 P.M. news on the theory that only those on the particular tape and their relatives would listen. "No," said the manager, "We'll put it on in good radio time, 11:30 Saturday mornings, both transmitters." I thought he was making a mistake, but when we went off the air people called the station, stopped me in the street—and even wrote letters. I was told that we had broadened horizons and stretched minds, that we had promoted understanding within the whole community directly and peripherally through the simple sharing of ideas. I know one of the chief values of our program was in digging up the local wealth or specialized knowledge and in letting the community take pride that the experts were their friends, their neighbors and themselves.

All it took—all it takes—were and are a willing station, a good battery tape recorder, coffee for everyone, and a moderator interested in licensed nosiness. When having teenage guests, this prescription may be varied with soft drinks. The basic problem is not in finding the people to participate. People who are informed are willing to share. (The psychiatrist said he was tired of doing marriage counseling when it was too late—perhaps our program might help him reach people sooner.) The basic, practical problem is simply one of coordination, of finding a time and place that you and your guests can meet without interfering with their or your professional and business lives. You can record at mutually convenient times and places varying from week to week and play back at a regular spot in the station schedule.

In my first series we never did get to float down the Susquehanna River in a rowboat discussing the problems of the largest river basin east of the Mississippi and south of the St. Lawrence. We never really got our teeth in to the Role of Poetry in Modern Civilization, or Can a White Collar Worker Find Happiness on a Pennsylvania Farm?, or Is the Convalescent Home a Cultural Windfall or Deadfall, or . . . there are so many topics and places and people we haven't yet touched on. What are you waiting for?

How to Tape a Wedding



If you're about to be married . . . or have a friend who is . . . by all means do what we just did and have the works recorded for posterity. Such a recording could become one of the bride and groom's most treasured possessions.

Our recording, actually, was an experiment. We'd never even thought of taping a wedding. The results proved so breathtaking, however, that we're wasting no time is passing along the relatively simple do's-and-don't to you.

Scene of our experiment was in a college chapel on a Saturday afternoon when a certain Ann and Charlie were to be married.

Using a portable transistor tape recorder (Panasonic) we were the first to arrive at the chapel. Having okayed our plan with the attendant, we stowed the recorder in a pew near where the ceremony was to be performed . . . about six or

by Bud Yallalee

eight feet from where the minister would stand. When the organist arrived, he played portions of several selections—both soft and loud—so we could test for volume. (The *incidental* music prior to the service, he explained, would be soft—the *recessional* following the ceremony, loud.) Finally, when the head usher arrived, we had him play “minister” and also tested his voice for volume.

Although we had planned on turning the recorder on and letting it record the entire service by itself, we were afraid there might not be sufficient tape. (Actually, we used a 600 foot reel and there was far more than enough.) Equally important, we felt we might have to adjust volume during the ceremony to accommodate varying voices and music. When the bride’s party arrived, we learned we could occupy a seat near the recorder. As the experiment proved, being able to adjust volume is extremely important to a professional-like recording.

With our own particular setup extension cords either for volume-control or on-and-off were unnecessary. However, you might possibly find that your own setup will not be as confined. (The church might be larger.) So check into this far in advance to avoid possible disappointment.

Omitting some of the twenty minutes of incidental music prior to the ceremony, we turned up our recorder, when the bride’s mother was walking down the aisle toward her pew. We then left it on for “Here comes the bride” and for the entire ceremony. At the service’s conclusion, we deleted some of the less-important recessional music with a manually regulated “fade-out.”

As mentioned, only a small portion of the tape was consumed during the chapel ceremony. Consequently, we had ample left for the reception during which we recorded many and varied sound-scenes which truly made this unusual tape complete.

But to return to the ceremony:

When the organist was playing incidental music, we turned the recorder’s volume about two-thirds up. When the prospective bride and groom stood before the minister—because the minister’s voice sounded low and indistinct—we turned the volume to *high* and hoped for the best. When one of the bridesmaids stood between the minister and tape recorder—muffling the minister’s voice—we moved both recorder and microphone to a nearby, less obstructed spot. Lucky we were sitting close at hand.

Next came the recessional music—too loud—and we quickly lowered the volume to about one-third—finally “fading out.”

After playing back the recording (and we were delighted to learn that the minister’s voice on tape was far more distinct than in the chapel) we headed for the reception.

Before attaching the microphone to our coat lapel and carrying the recorder into the clubhouse, we made some vocal notations on the tape: “The wedding ceremony in the chapel has just terminated, and now we are entering the clubhouse where the gala reception already is in progress.”

Such editing, incidentally, is highly desirable—for the memories even of those who attend are short and setting the stage makes later listening more understandable and far more enjoyable for everyone. We also added explanatory comments to the tape prior to the chapel ceremony, before going through the reception line, when the newly-married couple were making their get-away and, finally, at the conclusion of festivities.

But back to the reception.

When we first entered the spacious ballroom, we were greeted by a loud commotion—people talking and laughing, strains of the saxophone, traps and piano in the background. Fine! This automatically set the stage.

First we headed for the table where the champagne was being poured. Not only to wet our whistle but this was the ideal spot to record light-hearted chatter—then off to the various other groups which also offered spirited, provocative entertainment. And all the while, with the mike on our lapel, no one knew we were recording—until *after* they’d been taped. Consequently, no “mike fright” and conversation, truly, was candid.

As for volume, we pretty much had to play it by ear. Our own voice, near the mike, was distinct. When picking up the combo from the far side of the dance floor, we turned the volume up all the way. Conversely, when someone near the mike was gushing extra loud, we turned the volume down. Mostly, we left it about half way up.

Although for the most part the recording couldn’t have been better, one possible error we made (and again, this was an experiment) was not singling out enough specific talkers and recording too much of everyone talking at once. You or whoever makes your recording should watch out for this.

(In all fairness to ourselves, apart from the bride’s father and mother, the bride, her sister and brother, we were a complete stranger at the start of the ceremony. When the reception was over—having circulated among the various groups—we felt as though we knew just about everyone.)

We've mentioned being stationed at the champagne table (and later at the punch bowl). Another recording scene of note was when we went through the reception line spoke with the bride and groom's mothers, were introduced to the bridesmaids and, finally, stopped to visit with the bride and groom. When we told the bride that we had recorded the wedding ceremony (and informed her that she was being recorded "at this moment") she seemed especially elated!

Another scene you'll not want to miss is the bride-and-groom's getaway. As the couple's Volkswagen waited while they were changing into going-away clothes—tin cans adorning the car's rear—two ushers removed the left rear hubcap—the idea being to fill the cap with stones to cause a loud racket. But the stones—actually rocks—were too large to fit and the plot was foiled.

When we arrived on the scene, it looked as though the ushers were about to let the air out of the rear tire. "Stop it!" someone yelled. "That's a dirty trick." And several others yelled, "Go ahead." The air, filling with loud cries and cheers as the couple arrived suddenly was permeated with excitement—and the bride and groom made their *finale* by driving off for the Boston Airport and their Bermuda Honeymoon.

Actually, all was over. But we still had a quarter of the recording tape left. So we singled out the bride's father, then spotted (and recorded) several old acquaintances we hadn't seen in years.

Next day when the bride's mother and several house guests were listening to the recording, they—obviously, were thrilled. (We suggested that the bride and groom, when back from their honeymoon, might have a duplicate tape made from the recording—just in case the original should ever become lost or damaged.)

One of the house guests introduced a word of caution when listening to the taped organ music. "sounds a bit tired," she commented. And she was right. So we switched the recorder from *battery* to *AC current* and, again, all sounded perfect; apparently the batteries were getting low. (Be sure your batteries are in good shape at least while recording.) Or maybe, if necessary, you can even use *AC* like mine, can be set to record *music* (rather than voice). We didn't even bother—and with the *AC* playback, all was perfect.

There you have it. Our experiment was a huge success. And the recording, a most inexpensive wedding present, undoubtedly could become one of the bride and groom's most treasured possessions.

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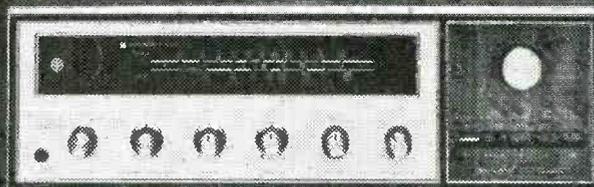
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How to Make Money with your Recorder



Four years ago for his birthday Edward de Franco of Brooklyn, N.Y. received a Wollensak 1515 tape recorder for his birthday. Today, he owns a system which includes a Uher 4000 battery-operated portable, an Ampex 860 and a Lafayette RK 860 in addition to the Wollensak—plus an array of audio equipment which would make the average teenager's mouth water. For Ed, proprietor of de

Franco Sound Studios, a \$6000-a-year business, is 18 years old and a full-time student at Brooklyn College.

"I've been interested in sound ever since I can remember," de Franco says today, "and the thing I wanted most was a tape recorder. When my parents gave me one, I had no idea that it would turn into a profitable business. I considered it only

as a hobby." de Franco got into the business accidentally when his older brother got married. "That was only a few months after I got the Wollensak, and I'd gotten to be pretty good with it. He asked me to tape the wedding ceremony for him. I did, for free. But other people started wanting copies—the bride's family, the best man, and so on. Before I knew it, I was sitting up nights running off copies on a borrowed Sony."

Ed admits that there was nothing special about his recording technique, or the quality of his finished product. "I simply asked the priest if I could set up a microphone at the front of the church, and ran cable back to the recorder which was located outside the main auditorium. But people liked what they heard, and before long, I had a couple more requests to tape weddings. By now, I had established a price—\$25 for a complete edited tape, and \$10 for each copy. I borrowed the money from my parents to buy the Lafayette so I'd have something to make copies on. The trouble was that many of my customers didn't own tape recorders. So I made arrangements with a recording studio in Manhattan to cut records from my tapes. They charged \$5 for each 12" LP, and I added \$1. That first year, I spent nearly \$100 for acetate discs, and it occurred to me that I could buy an inexpensive cutter and cut my own. So I borrowed some more money."

That first year, Ed made less than \$600—however, it was enough to pay back the two loans from his parents, and to start on the purchase of some other audio equipment. "I bought a used Rek-o-Kut turntable and a good stereo cartridge, plus a used Scott stereo amplifier. Tube equipment was on the way out then, and I managed to get a pretty good buy. I ran short of money before I completed the system, and bought two cheap speakers. However, they were good enough to let me hear what I was recording."

Weddings accounted for most of the business that year—but not all. Ed was an active participant in his high school drama club. So when it came time for the class play, who should be called upon to provide the sound effects but Ed. "I spent weekends recording all kinds of sounds—doors slamming, fire engines, dogs barking, by hanging a microphone out the window, or by recording things around the house. I didn't get paid the first time, but I've been able to sell some of these sounds since. What I did get paid for was a recording of the show. The leading man and leading lady each bought tapes."

The next step was the building of a studio in the de Franco basement. "I got a lot of acoustic tile from a local builder, and my dad and I spent hours tacking it up. We used 2 x 4 studs to create a control room separate from the recording studio. The family was in favor of moving the junk out of my bedroom anyway, and for the first time I had a place to work where I could leave things spread out." The recording studio has been used primarily by several de Franco classmates who have their own rock groups. "The guys sing for fun, but occasionally they want a demo cut—either for their own enjoyment, or to send to some talent agent. None of the groups has made it with a regular record company, but some of the demos I cut have resulted in club dates in the neighborhood." Ed has plowed the profits from his studio back into better equipment—particularly a selection of microphones. "I have two good cardioids, two omnidirectionals and a good mike for mono outdoor recording."

The sound effects venture led Ed into his purchase of a battery-operated portable. "The first one was an inexpensive Japanese model, and it kept breaking down. But with it I was able to do a lot of on-location recording. Then I'd get paid for playing back the tapes I'd made for theatrical groups. There are no set fees—you charge what the traffic will bear. But I usually figure on about \$25 a night if I'm supervising sound equipment and effects backstage, plus \$5 to \$10 for each original recording."

Although de Franco Sound Studios owns only four recorders, it does custom duplication work as well. "I started getting tapes from school—lectures, reports and that sort of thing. Now I get them from small businesses in the neighborhood, from individuals. I have a regular thing with a neighbor whose son is serving in Viet Nam. About once a month he sends a taped letter home, and she has me make copies for several relatives. I duplicate the tapes and mail them." Because the orders are small (his largest is for six copies of a given recording, which necessitates three passes through the Ampex), he has no competition from larger duplicators. "I've built a compensator-splitter which is fed by the Ampex and which in turn feeds the Wollensak and the Lafayette. With it I can duplicate a 1 $\frac{7}{8}$ ips tape at 7 $\frac{1}{2}$ ips without altering the frequency response and with no appreciable increase in signal-to-noise ratio." Ed buys brandname tape in quantity from a distributor. "I charge \$10 per hour of duplication time, which means that a 7 $\frac{1}{2}$ ips tape costs more per minute to duplicate than a

1 7/8 ips tape. The tape, reel and box are extra—.1¢ per foot for tape, computed to the next highest round number plus 35 cents for a 7" reel and 10 cents for a 7" box. If I address and mail, there's a charge for that as well."

Ed believes that duplication may be the fastest-growing part of his business. "I've printed up handbills and distributed them to the stores and offices in my neighborhood. You'd be amazed at the response they get (his younger brothers shove the handbills under doors on Saturday mornings). It seems that just about everybody has a tape he wants copied. I advertise my recording services too, but tape duplication gets all the attention. Doctors, for example, have a speech on tape they made before the county medical society, and they want one copy to send to a colleague in California—or a copy for a medical journal."

For a while, Ed was offering a service to fellow college students—but the College let him know in no uncertain terms that they didn't approve. "It started when I took the battery portable to class to tape lectures. I'd bring the tapes home and start transferring the highlights of each lecture to a large reel. Then when I had to cram for an exam, I'd just play the large reel over. Well, one of the guys who cut class fairly often came to borrow my big reel. I ran off a copy for him and charged him for it. Before long, I had several customers for copies. I don't know how the college found out about it, but it was strongly suggested that I stop."

de Franco doesn't pretend that his work is the last word in high fidelity. "I don't have the money for the best in professional equipment, although I hope to go into business seriously when I graduate. But most of my customers aren't very demanding when it comes to fidelity, either. They insist on a copy which sounds reasonably good on their equipment. That means you can't get away with things like the \$89 battery portable; but you can use ordinary good home equipment."

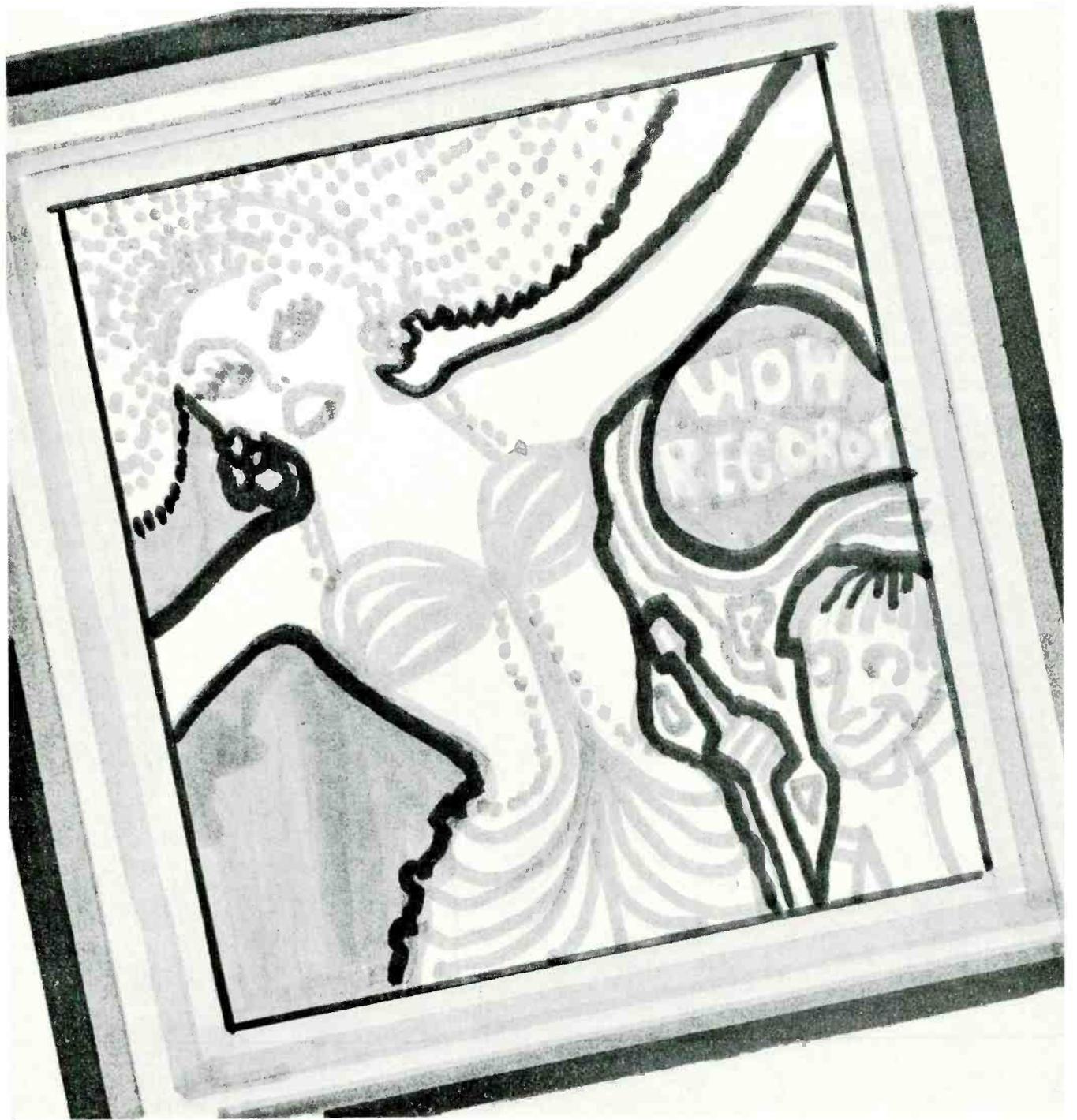
An exception has been his work with the choir in his church. "It was a logical outgrowth of the wedding business. The church choir decided to make a record as a fund-raising device, and they asked me to make the master tape. In fact, I not only record the program in stereo each year, but make arrangements with a custom presser to cut the records and press them." He notes that while he makes a profit on the original recording, the choir buys direct from the pressing plant. The records, which have become an annual affair, involve several evenings. Recordings are made in the

church on the Ampex, with two cardioid mikes stationed opposite either side of the choir. "We usually record two or three takes of each selection, and the choir director and I decide which one to use. We don't do any fancy splicing like combining parts of two or more takes, but I do put together the best-sounding master I can. Choir members and their friends aren't/as critical as the record producers at Victor or Columbia." Because the editing job is time-consuming, and because it's being done for charity, Ed charges an hourly rate for his time and the use of his equipment, rather than making a package price. "I'm sure I get a fair return, and the church feels it's not being taken," he notes.

The final service de Franco Sound Studios performs is the rental of equipment. "Potentially, it's very profitable—but I don't have enough equipment to rent. If I'm not using any piece of equipment, it's for rent—but it always seems that I have a tape duplication job when somebody wants a recorder—or I'm doing an on-location session with the Uher when somebody needs a portable." There are other tape recorder rental agencies in Brooklyn; but de Franco picks up and delivers (or, rather, the younger de Francos pick up and deliver) and his prices are lower. "Some of these companies get \$5 a day or \$25 a week. We have an hourly rate of \$1, a daily rate of \$4 and a weekly rate of \$15 for the Lafayette or the Wollensak; the Uher is more expensive." Microphones and other sound equipment likewise are available.

What about dubbing cartridges or cassettes? "I'm just getting started on cassettes. I've been asked to dub commercial records, but so far I've stayed away from that because of the legal problems. I've had no demand for eight-track, and I'm not interested enough to buy the equipment. Some small studios dub commercial records on tape for a nominal fee, but I don't want to get involved with licensing, royalties and lawyers. The only music I handle is the customer's own—such as the rock groups or the choir."

Does de Franco Studios interfere with getting a college education? "It used to. But my folks made it quite clear that my studying comes first and if I have to turn down business because of it, that's too bad. Now I work on recordings mostly on weekends and during vacations. Of course, I can duplicate while I study. As a result, I don't think I lose very much business because of school. And after a rocky start last year because I was spending too much time on recording, my grades have picked up."



Let's Make a Record

by *Arthur C. Matthews*

"Me, make a record? Never!"

At least that's what I thought. I know better now. It's not the easiest thing in the world, but it's not as difficult as you think, either. I was at a convention some years ago, recording for my own pleasure and edification when people began coming up to me and asking for copies of the speeches, choral concerts, folk song sings. Nobody wanted tapes either, so I said I'd see what I could do. I ended up producing seven 12 inch LPs and an EP. Since then I make a record every chance I get.

Since my first batch of records, I've recorded a student symphony, pipe organ dedication concerts, drama, massed choirs with brass and two organs, dance bands, individual soloists, the school choirs and bands. If you have a tape recorder in the \$300 and up bracket, you can make a record for your church, school or community group. You'll have fun, and the organization will have its memories preserved for cold winter nights. A record can help build organizational pride. And, sometimes, it can be a project to make a little extra money for the group.

"OK, I'm willing to listen. How many do you have to sell to break even?"

That depends upon the price. At four dollars each, you need to sell 50 records to break even. If you sell 100 records, you can charge \$2.50 and break even. I think we'd better talk about marketing first, because it'll determine whether you say: "Go ahead, press 'em."

What do you need to make a record? Basically, a tape, spliced with leader on both ends. That's all *you* need to do. The company you choose does the rest—for a price. They make the master, mother, stampers; press the record, label it, even put it in a jacket for you.

The first box of records costs and costs. To make the master from the tapes, to make the mother and stampers costs \$80 to \$120 for a two-sided LP. One record, a hundred, a thousand—the *fixed cost* of the recording remains the same. You may have to pay for additional stampers, since they tend to wear out, but I've never made enough copies to find out. If you ask, the company will send you the six pieces of your recording if you like. They make interesting wall decorations, and I have a friend who mounted a small clock motor in the middle of one and now has a very attractive mantel clock. The basic cost then is \$80—\$120. Divide that by 50 records and you have a cost of two dollars each and not a pressing available yet. Pressings (the actual records) vary in cost according to how many you have pressed at one time. Each time you reorder you start again on the cost scale, except for the stamper which is kept on file for about a year. The cost varies with the time of year (busy or slack), current labor costs, and the company you work with. For the 25 record lot you can expect to pay \$1.75 a pressing. If you buy 200 records, the price may go down to 69¢ each. If you buy several thousand records, the price goes down (by pennies) even

further. The reason for the initial high cost is the set-up time of the press, billing, administration and the like. With a large quantity, these fixed costs are spread out.

Don't limit yourself to music. Plays, events, or a combination of these things make good records. One of my most successful recordings was for a homecoming souvenir. We recorded the homecoming show, football game, singing, cheers, parade, interviews with kings and queens and then tied the whole thing together with narration. We called it "The Pigskin Powow." We sold nearly 300 copies in a school of 1,000 at \$1.98 and made a profit for our drama club. Every participant in the recording is a prospect, and so are his wife, relatives, in-laws, friends and neighbors. A personal prejudice: in this day and age, don't make a record in mono. With the recent price increase in mono records by the major manufacturers, most people will now have to do something about getting ready for stereo. If you make both a mono and a stereo recording, it'll be another \$100 for mastering for the separate versions. And you can be much more creative in stereo than mono.

MAKING THE MASTER

Now comes the fun. The recording's been fairly straightforward—a concert performance. If there's more than one performance, listen to both sessions and decide which of the two performances is best for each section. You'll have to do this by splicing the versions one next to the other. Listen with the director or performers: get out your best unprejudiced ears. Between you, decide the take you want. When splicing the tape, make sure you have a little room noise at the beginning and the end. When making the final splices, have the volume up loud (earsplitting) and make sure the last of the music has died away before you make a cut. Some manufacturers are splicing in room noise between numbers. You'll probably be better off with leader tape on either end of the take. If you're running at 7½ ips (that's certainly the best speed at the moment) splice about three feet of leader (4-4/5 seconds) between sections. If you're going to band separate numbers, this tape allows the engineer to make the adjustment to give you the bands (spiraling).

You may find occasionally that you'll have to drop a number because you just can't get a good take. You can, of course, have the manufacturer edit the tape. They charge about \$16 an hour to edit tapes. Learn for yourself. And if you want to learn, have somebody play something and make errors for you. Then you can, at your leisure instead of under pressure, learn to make the edit.

Plan your record so that you don't have more than 25 minutes on a side. Some of the new records advertise 35 minutes on a side, but check the people

mastering for you, they may not be able to do this. Follow their suggestions. You may or may not put the material on the record in the order in which the group played it. The average concert or recital is just too long to put on one record. After you've decided what to keep and what to drop, go through the material again and decide the final order. Even in studio sessions you may not record in the final order. An organist I worked with preferred to get the "hard" music out of the way first and move on to simpler things later as his fingers became tired. Sensible arrangement. When you have the final order, make sure that you put about five feet of leader tape on each end. Put one side of a record to a reel. One reel contains side one, the other side two. Label the reels carefully. I mark with a magic marker directly on the reel. I usually send the tapes in to be processed in the wound position. If you do, make sure to warn the engineer to rewind before playing.

On a separate sheet of paper (cut to the size of the tape box) type out the program order, timing for each selection, timing for the whole thing, and an identification of the group or recording. Using rubber cement, glue this sheet on the cover of the box.

People who spend a lot of time and effort writing music or drama like to get paid. We have a copyright law to protect them. Don't put yourself in a position for a lawsuit by trying to sell copyrighted material without getting the proper clearance. As a rule of thumb, music or literature written before 1913 is out of copyright, as is most folk music. That includes the bulk of classical music, the complete works of Shakespeare, Walt Whitman, Edgar Allan Poe and Anon. If you're in doubt about any of the selections you're recording, ask to see the performers' sheet music, scores or scripts. If there's a copyright notice, contact the copyright holder for permission. Some companies are very gracious about releasing their material, while others are very tight. Don't violate their instructions. If you're in doubt about any musical selection, contact the American Society of Composers, Authors & Publishers at 575 Madison Avenue, New York, N.Y., or Broadcast Music Incorporated, 589 Fifth Avenue, New York to find out whether a work is copyrighted, and who holds the rights to it.

Who will make the master? That's our next problem. I've dealt with Columbia, RCA, and Universal as well as local groups. Prices are about the same, but watch out—they'll give you different ways of figuring it out. When you get a price, make sure what you have to pay (postage all ways, for example). You have to cut a master and process the master. They may quote separately or together. Some companies include the label, some do not (like, \$12 per run). If you live in a large town,

shop around. It seems to me that the people at a company matter more than the name of the company. Talk around and find somebody who works well with you. Prices will not usually be that much different.

In a smaller city you may have only one person or nobody. I prefer to work locally because you can get quick results with a telephone. Look in the magazines. Many have ads for recordings. Write to several companies and make sure you know just what they will charge you for. Read, chart, and compare. Sometimes you can get a "test" pressing. Expect to pay for it—maybe up to \$20.

Now we're getting down to details. How many records do you order? Get as many as you can on one order. The more you buy in a single order, the lower the price. Each time you order, you pay for the setup of the machine, labels, and overhead. If you've got definite orders for 50, try 75. That first batch of records I made, we ordered in 25s and 50s as things ran out. If we'd been a little more optimistic, we could have earned \$1500 more on the eight recordings. Of course, you can be more optimistic, too, and break the bank. A little financial point; many companies require 70-80 per cent down: cold, hard cash. I can't blame them. Too many people want to "make it big" in the market. They want to make it big, but don't have the money to support their desires.

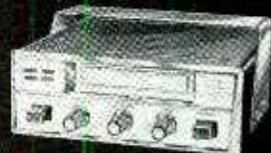
What should the labels look like? You can get almost any kind of label you want. I use a white label with red letters. I've used red with silver ink. Deep colors with silver, while pretty, aren't easy to read. You can have a company, group, or organization symbol printed on the label. The manufacturer will do anything you're willing to pay for. Don't try to put the whole world on the label. State who made the record. Indicate the numbers, who recorded them, and as many names as you can (flattery helps sales). The manufacturer generally will supply you with dummy labels. Type the information on the form, indicating which letters you want larger and which can go in smaller type.

Now comes the packing material. You may have a choice. Paper, glassine, polyethylene-lined paper and polybags. I like the lined envelopes best. With them, you may be able to get away without a jacket.

If you're going to have a jacket (sleeve) made, hold on to your budget. You can make your own jackets, too. Most companies will sell you a plain white cover for about 10¢ each. Many companies have "standard" jackets available in color for most purposes. A plain jacket of this type with no printing will cost you about 30¢ each. If you have printing on the front (usually quite limited), that will cost about \$25 per order. If you have a photo, perhaps another \$25-\$50.

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FM Radio and your Recorder



by Richard Ekstract

At last count there were 1387 FM stations in the United States, some 567 of which broadcast part or all of their schedules in FM stereo. That means for lucky listeners in New York City or Los Angeles, Marion, Ohio or Eugene, Oregon, a free source of stereo material which can range from cool jazz to Mahler's Symphony of a Thousand. All these listeners need to create a music library on a shoestring is a good FM stereo receiver, a stereo tape recorder and an ample supply of blank tape.

Musically, FM offers you an even wider choice than records do. Many FM stations carry live stereocasts of concerts, often combining singers, soloists and conductors that could never appear together on discs because of conflicting record contracts. The entire Boston and New York Philharmonic series are aired regularly in stereo. So are some of the leading music festivals of Europe, including the Florence May Festival, the Salzburg and Bath Festivals, as well as others. It's not uncommon to hear a tenor who records exclusively for London singing a duet with a soprano who belongs to Angel, accompanied by an orchestra and conductor who record exclusively for RCA Victor. Besides, there are some purists who claim that a broadcast of a festival performance has more immediacy and excitement than a studio recording (although it may lack the perfection of a pre-recorded tape).

Besides, taking music off the air is markedly cheaper than buying records. Even at discount prices, a classical stereo disc on a major label is apt to cost you upwards of four dollars; but an hour's worth of stereo (recorded on a four-track machine at 3 3/4 ips) comes to only \$1.50 even when you use the best tape. Another important factor is the flexibility of your investment. If you find that you tire of a piece after several hearings, you can erase it and use the same tape for another broadcast.

The trick is to tap that musical reservoir in the sky and turn it into a program source for your tape recorder. A component-type FM stereo tuner (or complete stereo receiver) is by far your best bet for this purpose, although a good FM stereo table radio or console will do. Whatever type of receiver you use, its performance will be enhanced by the selection and use of a good FM antenna.

The right antenna gives your tuner or radio a far better chance of catching FM stations clearly and reliably. The farther you are from the station, the better your antenna should be. Especially for stereo broadcasts, a multi-element roof antenna (if necessary with rotor) is virtually a necessity.

If you have a component-type sound system, hooking up your tape recorder is extremely simple. At the rear of your stereo receiver or amplifier (or preamplifier, if you are using a separate control unit) you will find two small round sockets marked Tape Out—L-R, the final two letters signifying left and right channels. You run a pair of patch cords (usually supplied with your recorder, but available from any audio shop for about \$1 a pair) from these Tape Out sockets to the left and right input terminals of your tape recorder (By the way, don't use the microphone inputs but a separate set of recorder inputs marked Phono or Line). That's all. From then on, anything that comes in on your FM tuner is piped automatically to your tape recorder. You're set for recording. If it's a stereo broadcast, use both channels. If it's a mono broadcast, just use one.

How about playback? On many stereo tape recorders you'll find a set of terminals designated as outputs for an external amplifier (usually marked Ext Amp). Your tape recorder instruction manual will give you particulars for your model. From these terminals you run two patch cords (one for the left, the other for the right channel) to a set of inputs on your amplifier marked Tape In. When you play your tapes, the music will then be reproduced automatically through your amplifier and speakers.

Even if you haven't got a component rig, you can still latch your tape machine on to the sky-borne bonanza. Suppose you have an ordinary FM stereo console or a good table model FM stereo radio. Now the obvious thing—and some people actually have done it—is simply to set your mikes in front of each speaker, turn on the recorder and whirl away. Don't you do it! For one thing, the acoustics of your living room will blur the recording when they are picked up by the mikes—along with street noise, the telephone, the dog, the racket from the dishwasher, your wife and the kids. Family mementos have a place on tape—but not as a part of a recording of the Beethoven Ninth

by the Philadelphia Orchestra. Besides, the mikes frequently are the weakest part of the average home recorder and they're apt to limit the fidelity of whatever you're getting off the air.

The only really effective way to hook a tape recorder to a radio receiver is by direct electrical connection. No mikes. If your FM stereo set doesn't have a special Tape Out terminal for connecting a tape recorder, you can improvise one. Go to your audio dealer and ask him to make up two input cables for your recorder, each with a pair of alligator clips at one end. Next you take the back off your radio and fasten the clips at some convenient spot (usually the speaker terminals)—to the wires running to each speaker. If output transformers are mounted on the speakers, attach your leads between the transformer and the speaker, not between the radio chassis and the transformer. The other ends of your patch cords, equipped with regular pin plugs, again go to your tape recorder inputs.

This method isn't quite as good as getting your signal from a special tape recorder connection on component-type equipment. But at least it lets you bypass the weakest links in the signal chain—your radio speakers and your recorder mikes—in getting the broadcast on tape.

The alligator-clip method of tapping signals from a radio can also be used with TV sets if you want to record the audio portion of TV shows. Again, put the clips on the speaker terminals of your TV set and run the line to your tape recorder input. As yet, no TV programs are broadcast in stereo, so you'll need only a single patch cord.

No matter which kind of hookup you use between your tape recorder and FM source, if you plan to do a lot of off-the-air recording, it's a good idea to leave all the cables connected permanently. Then you can stash them neatly out of sight, but you'll always be ready to roll whenever an interesting program is aired.

Suppose the Boston Symphony goes on the air at 8:30 and you want to tape the Haydn symphony they're playing as an opener. You had best be on the job by about 8:10, giving your rig a trial run just to make sure everything's shipshape for the conductor's downbeat. Besides, the extra 20 minutes will give your equipment a chance to warm up to its task. A properly warmed-up tuner won't drift off the station and need re-setting—a calamity which could mar an otherwise perfect take. Besides, the drive motor on your recorder will run at more constant speed once its temperature is stabilized and its lubricants sloshed around a bit.

Be finicky about tuning in your station. For

stereo, it's got to be right on the nose. Otherwise, you lose stereo separation and the sound gets fuzzy. Don't rely entirely on the visual tuning indicator, if your receiver has one. Always confirm the accuracy of your tuning by ear, rocking the tuning knob back and forth until you get the clearest sound. Also, in the interest of sonic clarity, a quick dab of head cleaning fluid on your tape recorder heads will prevent dull, muffled tapes due to dirt-clogged head gaps.

Next set the gain controls on your recorder for the proper volume level on both channels. Use as your test signal for this adjustment whatever program your station happens to be broadcasting before the concert. Most stations try to keep the transmission level constant from one program to the next. So if the recording level on your recorder is set correctly before the concert, chances are that it will be correct during the concert. Commercials, however, frequently are broadcast at a louder level than the rest of the program—so don't set recording levels while a commercial is on.

That Haydn symphony coming on at 8:30 won't last longer than half an hour. So a standard 6200-foot reel of tape running at 7½ ips will catch it all. Always try to estimate the music's playing time. One of the saddest sights is a recordist's face as he watches his tape run out in the middle of a once-in-a-lifetime performance. Some program bulletins published by FM stations give the timings for the various pieces of music. Otherwise you can make a rough guess at the length of a symphony by checking in that bible of record collectors, the Schwann catalogue, to see how many sides of an LP it occupies, allowing 25 minutes per LP side. Always load more tape on your recorder than you think you'll actually need. It's simple enough to clip off the excess later, and it's the only insurance against the loss of an irrecoverable program.

An adequate tape supply is rarely a problem. At 7½ ips, you get a full hour's playing time (in each direction) on a seven-inch reel of double-play tape. There are less than a dozen symphonies that long. In case of especially long-winded works, you can flip over the reels when the orchestra pauses between separate movements. With a little practice, you should be able to complete a flip in five seconds flat. Some recordists keep a second pair of reels already threaded next to the recorder ready to slap on the machine when the music reaches a convenient stopping place. By using these standby reels they can shave a second or so off their flip time. Besides, it assures that tape is recorded in one direction only, which facilitates later editing.

Of course, you can double the playing time per

reel by recording at $3\frac{3}{4}$ ips. Sure, you might lose some high frequencies, but modern recorders coupled with low-noise and high-output tapes developed in recent years perform so well at this slower speed that the loss is not appreciable. Network broadcasts, for instance, rarely contain enough high frequencies to make the loss noticeable. But in the case of programs originating locally or programs broadcast from LP or tape, the $7\frac{1}{2}$ ips speed may provide a slight margin of quality.

In any case, keep in mind that what really counts is not the total playing time per reel (i.e. playing time in both directions) but the *uninterrupted* playing time (i.e. playing time in one direction only). The orchestra won't stop in the middle of a movement just because you forgot to flip your reels.

The clock creeps toward zero hour. Start your machine about 20 seconds before broadcast time, so you'll be sure not to miss anything. You can always cut out that commercial later. Once the program is on, keep an eye on the recording level meters. If the level seems a little high or low at first, just let it go. Chances are that the engineer at the station will correct it. But if the engineer is asleep at the switch, by all means adjust the signal level. Do it discreetly, however. Turn the knobs very gradually, and turn both channels simultaneously. A good trick used by veteran broadcast engineers is to follow the expression of the music while you do it. If you must raise the volume, do it during a crescendo, hiding your maneuver under the natural swell of the music. Conversely, lower the recording level in a passage where the music naturally subsides. Frequent volume changes give the recording a broken up feeling. The best recordings are those with the least amount of knob twiddling.

At the end of a live musical broadcast, don't snap off the recorder at the last note. By doing so, you may amputate the fading reverberation of the last chord, ending an otherwise fine performance with a jolt. Wait for the applause or the announcer to follow the music, then slowly fade out both channels in tandem.

In recording non-musical programs off the air, a good rule is to let the recorder run through everything. Don't start and stop the recorder to edit out stretches you think you don't want. You can always do that later, and you'll have a chance to decide at leisure what you want to keep. If you missed something in the original taping that turns out to be necessary for continuity, it's gone for good.

You'll find in short order that a stereo recorder, an FM stereo receiver and plenty of blank tape are a winning combination for listening enjoyment.

COMPARE CRAIG

stereo
tape
recorders



Craig Stereo Cassette Recorder. This complete system features easy-to-load cassette cartridge convenience in handsome walnut finish and slim-line design. Model 2703. Price \$189.95*



Craig Auto-Reverse Stereo Tape Recorder. Unequaled performance with three speeds, automatic reversing system, sound-on-sound and many more outstanding features. Model 2402. Price \$349.95*

For the finest in stereo recording or listening, Craig has 7 different cassette, reel-to-reel, recorder and deck models to choose from.

*Suggested retail price

CRAIG

CRAIG CORPORATION
Products Division, 2302 E. 15th Street
Los Angeles, California 90021

How to Keep your Recorder Out of the Repair



Shop

No matter what type or brand of recorder you buy (or own already), the day will come when you'll have to take it to the repair shop. Because repairs can be expensive—and because the current shortage of qualified tape recorder repairmen can mean that your recorder will be out of commission for anywhere from two to six weeks—some tape hobbyists try to beat the system by preventive maintenance, by learning something about tape recorder first aid, and by detecting the cause of malfunction.

Unless you're a qualified electronic technician, you won't be able to eliminate repair bills entirely. After all, tape recorders do contain moving parts which wear out with use. Tape does rub against sensitive heads, guide posts and capstans. And there are complicated electronic circuits which are subject to the same malfunctions as your transistorized color TV set. However, there are certain steps you can take.

Before we get to the specifics, let's examine a couple of general rules which can save you money. The first is to read your instruction book carefully. This is particularly important when you use any recorder for the first time. The nation's tape recorder service agencies report that better than half of all the recorders brought in for repair either have nothing wrong with them at all, or a malfunction has been caused by doing something the instruction book warns against. An excellent example is the speed-changing mechanism in some machines. Some Roberts and other models caution users to change speed only when the motor is on. Doing so when the motor is off can damage the machine's belt-link system. On the other hand, some Ampex models can be shifted from one speed to another only when the motor is off, and the instruction book so advises. Failure to heed this advice can send you and your machine to the repair shop almost as soon as you get it unpacked.

Even if you've owned and operated dozens of recorders, it's a good idea to check the instruction book before operating a new machine, to be sure you understand all the controls, inputs, outputs and patch cords. They change from one machine to another.

Next big cause of service complaints is dirty machines. A tape recorder must be kept clean if it's to function properly and enjoy a long life. Dirt in the air can gum up the innards of a machine left uncovered too long in a city apartment; and small oxide particles can clog delicate recorder

heads and tape guides. Here again, the instruction book can give you valuable information on how to do it for your machine.

Particularly important is selecting the right cleaning fluid. Carbon tetrachloride is a good, efficient cleaner strongly recommended by some manufacturers for use on their machines. But it can attack rubber and metal parts on others, causing more harm than good. Xylene, the cleaning fluid used most commonly in commercial recorder cleaners, is highly satisfactory for most recorders. But it can dissolve the plastic on the erase heads of some recorders, such as the Norelco. Denatured alcohol, recommended for use on Norelcos, gums up the heads on some other recorders and can dissolve the glue which holds pressure pads in place.

Once you've found the right solvent for your machine, you'll need an applicator. Some commercial cleaners come in bottles with their own brushes. Generally speaking, you're better off with a cotton-tipped Q-Tip (applicators for baby lotions sold in drug stores) because they're less likely to scratch or damage recorder heads. Simply soak the Q-Tip in cleaning solution, swab gently but liberally recorder heads, capstan, rubber idler wheel and tape guides at regular intervals. It should be done at least once a month if you use your recorder an average amount (two or three hours a week); at least once a week if you're a heavy recorder user. Some professionals even recommend cleaning every hour or two, but most home users won't find this necessary.

You can use the Q-Tip to remove bits of dust and solid material from the head assembly (move the head cover and clean out any dirt while you're at it) as well as the buildups of oxide on heads or tape guides. Polluted air causes blobs of dirt to collect inside the head housing. Sometimes these fall down inside the machine and cause real damage.

Before we go on to the first aid section which follows, check your instruction book and warranty card to see just how far you can go in providing first aid. If your recorder is covered by a warranty, you may find that some of the first aid steps which follow may void your warranty agreement. Manufacturers try to discourage amateurs from probing the insides of their machines too deeply—particularly when the machines are new. If yours is out of warranty, however, we believe you'll find these steps helpful and money-saving.

COMPLAINT	PROBABLE CAUSES	WHAT TO DO ABOUT IT
Loss of high frequencies	tape threaded incorrectly (dull side away from head)	Thread tape properly.
"	dirty head	Clean heads with recommended solvent and Q-tip applicator.
"	playback or record head out of alignment	Check, with the aid of an alignment tape, head alignment. Requires skill of an advanced amateur and a steady hand.
"	twisted or damaged tape	Check to see that tape is not stretched or damaged.
"	too much bias current into the record head.	Check bias adjustment. Requires skill of an advanced amateur.
"	worn heads	Examine heads for scratches. Replace if necessary, using recommended replacement kit or head.
Pronounced resonant peak at some high frequency	In tube recorders, a badly soldered connection in the amplifier; or dirty contact on volume control.	Check and clean volume control. If that fails, take machine in for servicing. Check to see that manufacturer hasn't provided peak intentionally in order to increase the intelligibility of speech.
Loss of very low frequencies	Often intentional, particularly in less expensive recorders. Generally due to an excessive bass cut in recorder equalizer, done to mask machine hum or rumble.	Turn up bass control.
Non-linear distortion	Overmodulation; incorrect value of A.C. bias into record head	Check recording level and bias.
No sound from recorded tape	Recorder left in "record" mode. Monitor speakers turned off. Break in connection to loudspeaker or in patch cord from sound source to recorder. Volume control turned all the way off. Amplifier fault. Piece of splicing tape covers head gap.	Check to see that all controls are in correct position. Play commercially prerecorded tape to determine if fault is in record or playback circuit. Substitute another cable for patch cord linking sound source with recorder.
Recorder fails to erase all of previous recording	Voltage low. Defective oscillator. Erase current control wrongly set.	Check your house current.

COMPLAINT	PROBABLE CAUSES	WHAT TO DO ABOUT IT
Recorder fails to erase all of previous recording	Erase head dirty.	Clean erase head.
Tape erases, but machine won't record	Input cable not properly connected or break in wire or disconnection at socket. Amplifier failure. Record lock not depressed.	Check all controls to see they're correct. Check VU meter to see that signal is reaching recorder. Check cables for break by wiggling in socket.
Very low volume level or loss of high frequencies when recording	Recorded or played with wrong side of tape against head. Meter sensitivity incorrect. Bias adjustment too low.	Thread tape correctly. Check bias level setting. Tap meter gently to see if it jumps. It may need replacing.
Low hum during playback	Input (microphone or cables from tuner) not properly grounded. Recorder operating in electrical field.	Check if hum is there even if tape is stationary. Determine whether hum exists on prerecorded tapes as well as those made on machine. Try reversing the recorder's power plug in the wall socket.
Constant speed motor won't run, or runs slowly and gets hot.	Blown fuse, faulty switch or relay or fault in relay circuit. Lead to motor fractured or disconnected. Shorted turn in motor winding. Warped tape reel causing friction. Cooling fan bent out of shape. Reverse drive on feed reel too great. Braking being applied during play. Battery-operated portables' motor brushes may be worn or the commutator dirty.	Check fuses. Examine continuity of windings. See that motor and reels rotate freely. Check switches for continuity, cleanliness and contact.
Motor runs erratically	Motor bearings dry; oil on pressure roller, capstan or tape; bent reel. Excessive braking on feed reel. Fluctuations in drive to takeup reel. Dirty switch contacts causing momentary breaks in motor circuit. Phase-splitting capacitor beginning to fail.	Check that tape, capstan and pressure roller are free from oil and that the tape is not stretched or curled. Examine reels for warping. Check that there is no excess braking to feed or takeup reels.
Tape slips in drive; wow or flutter	Dirty or oily capstan or accumulation of tape deposit on capstan roller. Bad splice in tape sticking in guides or on heads. Sticky tape due to joint adhesive spreading over several turns. Warped reel scraping deck. Too much tape on reel. Bent motor shaft. Uneven pinch roller. Worn bearings or motor fault.	Clean drive capstan and pinch roller. Replace warped reel. Use only proper tape for splices. Check pinch roller for perfect roundness. Examine motor shaft and bearings.
Motor runs too fast	One or more of the motor poles is shorted.	Replace motor.

The Complete Recorder

Aiwa
Model TP802
6 x 14 x 14 inches
\$109.95



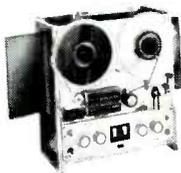
Two-speed two-track mono portable with 7-inch reel capacity, built-in speaker, tape counter, level meter, tone control, complete with mike.

Allied
Model 1040
13 $\frac{3}{8}$ x 18 $\frac{1}{2}$ x 9 $\frac{7}{8}$ inches
\$179.95



Three speeds, instant stop, 10-watt output, detachable speaker systems, single knob mode control, two VU meters, digital counter, volume and tone controls, fold down panel conceals some controls, automatic tape lifters. Response 30 to 18,000 c.p.s.

Aiwa
Model TP-1001W
14 $\frac{1}{2}$ x 13 $\frac{1}{2}$ x 10 inches
\$229.95



Two-speed (3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s.) solid-state, four-track unit with two heads, two 8-inch oval speakers, tape counter, two VU meters. Frequency response 70 to 15,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s. Wow and flutter .15% at 7 $\frac{1}{2}$ i.p.s. Includes two mikes.

Allied
Model TR 1035
12 $\frac{1}{2}$ x 15 $\frac{3}{4}$ x 7 $\frac{3}{8}$ inches
\$159.95



Solid-state, four-track stereo recorder operating at 7 $\frac{1}{2}$, 3 $\frac{3}{4}$, and 1 $\frac{7}{8}$ ips. Featuring single-knob function control with instant stop, two built-in speakers, tape lifters, digital counter, two recording level meters, automatic shutoff, speaker on-off switch. Response of 40-15,000 Hz at 7 $\frac{1}{2}$ ips. Comes with two mikes. Weighs 32 lbs.

Aiwa
Model TP1006
20 $\frac{3}{8}$ x 14 x 8 inches
\$329.95



Vertical-styled stereo portable with built-in speakers, two VU meters, sound-with-sound, sound-on-sound, automatic shutoff, separate tone controls, pause control, three speeds, headphone jack. Response 50 to 18,000 c.p.s. Weight 35 pounds.

Allied
Model 1050
13 $\frac{1}{2}$ x 13 $\frac{1}{8}$ x 7 $\frac{3}{8}$ inches
\$99.95



Two-speed (7 $\frac{1}{2}$, 3 $\frac{3}{4}$ ips) solid-state mono recorder with built-in 4 by 6-inch speaker and amplifier with two watt peak output power. Features tone control, direct radio or phono recording, automatic level control, three digit counter, level meter, record interlock button, pause/fast forward control, external speaker jack. Has frequency response of 50-12,000 Hz. Uses seven inch reel. Weighs 18 lbs.

Aiwa
Model TP1012
13 $\frac{1}{2}$ x 12 $\frac{3}{8}$ x 7 $\frac{1}{4}$ inches
\$169.95



Horizontal-styled stereo portable with built-in speakers, one knob function control, two VU meters, three speeds, tone controls, pause control, vertical or horizontal operation. Response 50 to 16,000 c.p.s.

Allied
Model TR 1080
12 $\frac{3}{4}$ x 19 $\frac{1}{8}$ x 12 $\frac{1}{4}$ inches
\$349.95



Automatic tape-reversing solid-state stereo recorder. Separate speakers form cover for recorder. Sound-on-sound and sound-with-sound features. Has preamp outputs, solid-state stereo amplifier, rocker switches, volume control for each channel, bass and treble controls, speaker on-off switch, automatically equalized response at all three speeds (7 $\frac{1}{2}$, 3 $\frac{3}{4}$, 1 $\frac{7}{8}$ ips), automatic tape lifters, two level meters. Response of 40-19,000 Hz at 7 $\frac{1}{2}$ ips. Includes two mikes with stands. Weighs 45 lbs.

**American Geloso
Model 4-10
12 x 5 x 11 inches
\$269.95**



Three-speed (3/4, 1 7/8, 15/16 i.p.s.) monophonic transistorized portable with 5-inch reel capacity, VU meter, a.c. operation. Frequency response 40 to 12,000 c.p.s. at 3/4 i.p.s. Signal-to-noise ratio 50 db. Wow and flutter .2 per cent. Comes with remote control mike.

**Ampex
Model 761
23 1/2 x 14 x 8 1/2 inches
\$329.00
Model 761**



Three head stereo system featuring tape monitor, sound-with-sound, dual capstan drive, two cube speakers, two dynamic mikes. Frequency response at its operating speed of 7 1/2 ips 50-15,000 Hz ± four db. Signal-to-noise ratio 46 db. Peak music power 40 watts.

**Ampex
Series 1161
19 x 13 1/2 x 7 1/2 inches
\$369.00**



Four-track, solid-state, three-speed (1/8, 3/4, 7 1/2 ips) stereo unit with automatic reverse, automatic threading, deep gap heads, dual capstan drive, VU meters, separate volume controls for each channel, tone controls, automatic tape lifters, monitor switch, automatic cue provision, push-button digital counter, two dynamic mikes and two slide-on speaker systems each containing a six-inch woofer and a 3 1/2-inch tweeter. Frequency response 50 to 15,000 Hz ± four db at 7 1/2 ips; 50 to 7,500 Hz ± four db at 3/4 ips. Signal-to-noise ratio 46 db at 7 1/2 ips; 43 db at 3/4 ips. Wow and flutter .15% at 7 1/2 ips; .2% at 3/4 ips. Peak power output 30 watts.

**Ampex
Model 2161
19 x 13 1/2 x 7 1/2 inches
\$469.00**

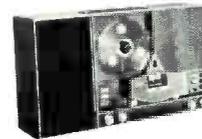
See Ampex listing under Tape Deck Directory for specs.

**Ampex
Model 861
19 x 13 1/2 x 7 1/2 inches
\$249.00**



Four-track, three-speed (7 1/2, 3/4, 1 7/8 ips) solid-state stereo unit with dual capstan drive, VU meters, tone controls, automatic tape lifters, monitor switch, push-button counter, vertical or horizontal operation. Frequency response 50 to 15,000 Hz ± four db at 7 1/2 ips; 50 to 7,500 Hz ± four db at 3/4 ips. Signal-to-noise ratio 46 db at 7 1/2 ips; 43 db at 3/4 ips. Wow and flutter .15% at 7 1/2 ips; .2% at 3/4 ips. Peak power output 30 watts. Includes microphones and slide-on speakers.

**Ampex
Model 1461
23 1/2 x 14 x 8 1/2 inches
\$429.00**



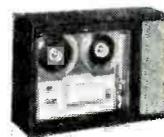
Automatic reverse, four head tape system featuring dual capstan drive, automatic threading, tape monitor, sound-with-sound, two cube speakers, two dynamic mikes. Frequency response at 7 1/2 ips of 50-15,000 Hz ± four db, signal-to-noise ratio 46 db, peak music power 40 watts.

**Ampex
Model 985A
\$600.00**



Stereo music center incorporating built-in AM/FM-stereo FM tuner and automatic-reverse, auto-thread tape recorder with three-speeds (7 1/2, 3/4, 1 7/8 ips), deep gap heads, dual capstan drive, VU meters, separate volume controls for each channel, solid-state electronics, electro-stop pause control, automatic shut-off, monitor switch. Frequency response 50 to 15,000 Hz ± four db at 7 1/2 ips; 50 to 7,500 Hz ± four db at 3/4 ips. Signal-to-noise ratio 46 db at 7 1/2 ips; 43 db at 3/4 ips. Wow and flutter .15% at 7 1/2 ips; .2% at 3/4 ips. Peak power output 30 watts. Includes two dynamic mikes, matched speaker system.

**Arvin
Model 86L38
\$119.95**



Three-speed (7 1/2, 3/4, 1 7/8 i.p.s.) solid-state unit with 'sound-with-sound,' monitor system, push-button controls, VU meter, digital tape counter, 5 1/4-inch speaker, volume and tone controls. Frequency response 70 to 12,000 c.p.s. ± 5 db at 7 1/2 i.p.s. Signal-to-noise ratio 45 db. Wow and flutter .2% at 7 1/2 i.p.s. Includes dynamic mike.

**Bell & Howell
Model 2265
8.5 x 13.3 x 15.7 inches
\$299.95**



Automatic reverse solid state four-speed stereo recorder features exclusive reversing head assembly for electronic symmetry of playback and record in both directions, single control directs all tape modes, three-position cycle programmer for play, auto reverse or repeat, dual VU meters, two 8- by 4-inch oval speakers. Provides for sound-with-sound. Operates at speeds of 7 1/2, 3/4, 1 7/8 and 1 1/2 ips. Frequency response 40 to 17,000 Hz at 7 1/2 ips. Weighs 25 lb.

Bell and Howell
Model 2297
 8½ x 13½ x 15½ inches
 \$398.95



Automatic loading via "air cushions", automatic tape reversing, audible search control to locate specific passage during fast rewind, automatic mixing on either or both stereo channels from different sources of sound, 7-inch reel capacity, four-speed operation, level controls for each channel for both record and play, digital counter, automatic head degaussing, separate volume control for play and monitor, two VU meters, pause control, automatic shut-off. Vertical or horizontal operation. Signal-to-noise ratio better than 51 db at 7½ i.p.s. Wow and flutter less than 0.9 per cent. Response 40 to 17,000 c.p.s. ±3 db at 7½ i.p.s. at pre-amp output. Fifteen watts E.I.A. music power per channel. Front panel serves as reel cover.

Concertone
Model 4000
 \$199.95



Three-speed portable with detachable wing speaker systems, two VU meters, digital counter, sound-with-sound, complete with two mikes.

Concord
Model 444
 9⅜ x 13⅜ x 14 inches
 \$199.95



Stereo unit with push-button operation, sound-on-sound facility, solid state circuitry, instant cue button, digital counter, automatic pressure roller disengagement, master tone control, 10-watt amplification, two speakers, two mikes. Tape speeds 1⅞, 3¾, 7½ i.p.s. Frequency response 50 to 15,000 c.p.s. ± two db at 7½ i.p.s. Wow and flutter less than 0.2% RMS. Signal-to-noise ratio 40 db per channel. Weighs 30 pounds.

Bell and Howell
Model 2295
 \$379.95



Same as Model 2297 but with 8.4 watts per channel output.

Concord
Model 727
 13 x 13 x 20 inches
 \$269.95



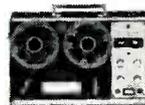
Solid-state stereo two-speed (7½, 3¾ i.p.s.) unit with two detachable 6-inch speakers individually enclosed in mahogany cases, two heads, two VU meters, automatic shut-off, vertical or horizontal operation. 7-inch reel. Frequency response 30 to 20,000 c.p.s., 50 to 15,000 c.p.s. ± 3 db. Wow and flutter .15% at 7½ i.p.s.; .18% at 3¾ i.p.s. Signal-to-noise ratio 50 db. Power output 15 watts. Includes two dynamic cardioid mikes. Weight 40 lbs.

Channel Master
Model 6430
 14½ x 13 x 10¾ inches
 \$239.95



Solid state stereo recorder with sound-with-sound, twin VU meters, automatic shutoff, digital counter, four-pole heavy duty motor, seven inch reel capacity, four inch extended range speakers contained in removable lids, various inputs and outputs. Power output three watts per channel. Tape speeds 3¾, 7½ i.p.s. Frequency response 50 to 15,000 c.p.s. at 7½ i.p.s. Signal-to-noise ratio 47 db. Wow and flutter less than 0.3%. Weight: 12 lbs.

Concord
Model 776
 13 x 13 x 20 inches
 \$349.95



Automatic reversing, solid-state stereo unit with two speeds (7½, 3¾ i.p.s.), four heads, two VU meters, two detachable 6-inch speakers with enclosures, automatic shut-off, vertical or horizontal operation. 7-inch reel. Frequency response 30 to 20,000 c.p.s., 50 to 15,000 c.p.s. ± 3 db. Wow and flutter .15% at 7½ i.p.s.; .18% at 3¾ i.p.s. Signal-to-noise ratio 50 db. Power output 15 watts. Includes two dynamic cardioid mikes. Weight 40 lbs.

Channel Master
Model 6465
 12⅜ x 10 x 5⅞ inches
 \$109.95



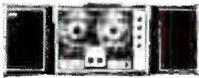
Solid state AC-operated portable with 7-inch reel capacity, two tracks, monophonic, running speeds 3¾ and 7½ i.p.s. Features include digital counter, automatic level control, tone control, VU meter. Priced with microphone.

Craig
Model 910
 12¾ x 16½ x 7¼ inches
 \$179.95



Portable four-track solid-state stereo unit running at 3¾ and 7½ i.p.s. using 7-inch reels, and operating on a.c. current. Features include digital counter, sound-on-sound, VU meter, 4 x 6-inch speakers, supplied with dynamic mikes. Frequency response 50 to 15,000 c.p.s., plus-or-minus 3 db at 7½ i.p.s.

Craig
Model 2403
 18¼ x 14¼ x 11¼ inches
 (speakers included)
\$239.95



Three speed, 7-inch reel capacity, dual level meters, end-of-tape cutoff switch, panel stereo headphone jack, detachable speaker systems, single operation control including pause position, secondary controls hidden behind small panel, tone controls, digital counter, and sound-with-sound facility. Response 30 to 15,000 c.p.s. at 7½ i.p.s. Wow and flutter less than 0.15 per cent. Signal-to-noise ratio better than 40 db. Includes two mikes and two patch cords.

General Electric
Model M8060
 18½ x 14½ x 9¾ inches
\$164.95



Solid-state, four-track stereo with ultra-balanced capstan drive. Matched, removable 6-inch dynamic speakers. Push-button operation, balance control, tone control, record interlock, monitor switch, pause control, digital counter, VU meter. Dual dynamic mikes store in wood-grained finish polystyrene cabinet. Separate record and erase heads. Frequency response 50 to 15,000 c.p.s. ± 3 db at 7½ i.p.s. Tape speeds 7½, 3¾ i.p.s. Reel size 7-inches. Weight 24 lbs.

Dynaco
Model Beocord 2000
 18 x 14 x 10 inches
\$525

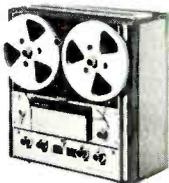
Three-speed (1⅞, 3¾, 7½ i.p.s.) solid-state, three head four-track stereo portable with monitor speakers in detachable lids, hysteresis synchronous motor, three stereo mixing inputs, no-pressure-pad tension system, built-in splicing aid, 8-watt amplifiers, headphone jack on panel, VU meters, automatic shutoff, cueing, sound-on-sound, echo facilities, monitoring facilities, pause control, tape counter, plug-in circuit modules. Frequency response 40 to 16,000 c.p.s. at top speed, plus-or-minus two decibels. Wow and flutter 0.075% RMS. Signal-to-noise ratio better than 55 db.

General Electric
Model 8160
 18½ x 14½ x 9¾ inches
\$194.95



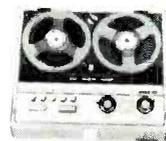
Four-track, two-speed portable with detachable wing speaker systems, five rocker mode controls, two VU meters, digital counter, automatic tape shut-off, complete with two mikes. Has eight watts output, peak. Signal-noise ratio 45 db.

Ferrograph
Model Series 7
\$500.00



This British-made unit claims three heads and unique editing features but full specifications were not available at time of publication. Sold through Elpa Marketing Industries, New Hyde Park, New York.

Grundig
Model TK247
 17½ x 13 x 7½ inches
\$219.95



Two speed (7½ and 3¾ ips) stereo portable featuring sound-on-sound and sound-with-sound, twin VU meter, pause bar, automatic shut-off, digital counter, push-button mode controls, Response 40 to 16,000 Hz. Weighs 30 pounds.

General Electric
Model M8050
 18½ x 7 x 14 inches
\$109.95



Mono recorder with seven-inch reel, 7-inch x 5-inch dynamic speaker, tone control, push-button operation, dynamic mike, interlock, pause control, digital counter, monitor switch, push-button speed change. Ultra-balanced capstan drive, VU meter, fast forward, solid-state design. Tape speeds 7½, 3¾ i.p.s. Weight 12 lbs.

Grundig
Model TS-340U
 20¾ x 15¾ x 8 inches
\$299.95



Three-speed (7½, 3¾, 1⅞ ips) stereo/mono four-track unit with built-in tape cleaner, record level indicator, fast forward and rewind, two 7-inch x 5-inch speakers. Frequency response 40 to 18,000 Hz at 7½ ips; 40 to 15,000 Hz at 3¾ ips; 40 to 10,000 Hz at 1⅞ ips. Signal-to-noise ratio 50 db at 7½ ips; 50 db at 3¾ ips; 45 db at 1⅞ ips. Weighs 37½ lbs.

Grundig
Model TK341
 20 $\frac{3}{4}$ x 15 $\frac{3}{4}$ x 8 inches
 \$224.95



Three-speed (7 $\frac{1}{2}$, 3 $\frac{3}{4}$, 1 $\frac{7}{8}$ ips) stereo/mono unit with two speakers, digital counter, tone and volume controls, automatic recording level adjustment, automatic shut-off, fast forward and rewind. Frequency response 40 to 18,000 Hz at 7 $\frac{1}{2}$ ips; 40 to 15,000 Hz at 3 $\frac{3}{4}$ ips. Signal-to-noise ratio 50 db.

Hitachi
Model TRQ 727
 15 $\frac{1}{2}$ x 16 x 7 $\frac{1}{4}$ inches
 \$149.95



Four-track, three-speed (1 $\frac{7}{8}$, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips) stereo deck with push button operation, tape counter, two VU meters, "levelmatic," vertical or horizontal position, seven-inch reel capacity. Frequency response 30-18,000 Hz at 7 $\frac{1}{2}$ ips, 30-13,000 Hz at 3 $\frac{3}{4}$ ips. Weighs 21 lbs.

Hitachi
Model TRQ707
 \$229.95



Stereo portable with two detachable wing speaker systems, complete with two mikes. Has two VU meters, tape counter, tone control, monitor control, automatic level control, three speeds, automatic stop, sound-with-sound capability.

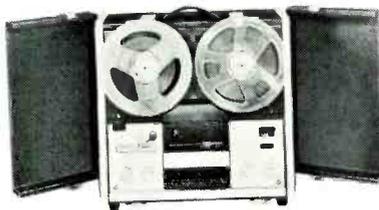
JVC Nivico
Model 1171
 13 $\frac{5}{8}$ x 12 $\frac{5}{8}$ x 6 $\frac{3}{4}$ inches
 \$99.95



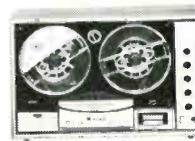
Two-way mono recording system allows continuous taping both ways for up to three hours on a five-inch reel. Features a built-in speaker monitor for use as a PA system, instant stop device, continuous automatic volume control, two speeds (1 $\frac{7}{8}$ and 3 $\frac{3}{4}$ ips), three-digit counter, 3 by 6-inch oval speaker and two watts output. Weighs 15 lbs.

Hitachi
Model TRQ 717
 15-1 $\frac{1}{32}$ x 7-1 $\frac{1}{32}$ x
 13-11 $\frac{1}{16}$ inches
 \$169.95

Four-track three-speed (1 $\frac{7}{8}$, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips) stereo with "levelmatic," tone control, tape counter, two VU meters, seven-inch reel capacity, built in speakers with reflectors, mixing input and pause switch. All pushbutton operation. Frequency response 50-15,000 Hz at 7 $\frac{1}{2}$ ips, 50-9,500 Hz at 3 $\frac{3}{4}$ ips, wow and flutter 0.17% at 7 $\frac{1}{2}$ ips and signal-to-noise ratio 50 db (playback). Comes with two dynamic mikes. Weighs approximately 25 lbs.



JVC Nivico
Model 1224
 12 $\frac{3}{4}$ x 38 $\frac{1}{4}$ x 7 $\frac{1}{2}$ inches
 \$349.95



Stereo record and playback in either forward or reverse mode with a peak power of 20 watts and a frequency response of 30 to 18,000 Hz at 7 $\frac{1}{2}$ ips, operating at speeds of 7 $\frac{1}{2}$, 3 $\frac{3}{4}$, and 1 $\frac{7}{8}$ ips. Features automatic repeat, stop, and tape lifter in fast forward or reverse. Has dual VU meters, pause control, four-digit counter, twin mikes, single knob control for volume, bass and treble and incorporates sound-on-sound and sound-with-sound. Matching speaker enclosures in oiled walnut each having 6 $\frac{1}{2}$ -inch woofer and three-inch tweeter. Weighs 36 lbs.

Hitachi
Model TRQ 710
 13 $\frac{3}{4}$ x 7 $\frac{1}{4}$ x 15 $\frac{3}{4}$ inches
 \$99.95



Solid-state three-speed, mono recorder. Features "levelmatic" for sound control, all push-button operation, tone control, two source mixing, three-digit counter, speaker monitor, vertical or horizontal position. Operates at speeds of 7 $\frac{1}{2}$, 3 $\frac{3}{4}$ and 1 $\frac{7}{8}$ ips. Frequency response of 50-15,000 Hz at 7 $\frac{1}{2}$ ips, 50-9,500 Hz at 3 $\frac{3}{4}$ ips. Has seven-inch reel capacity. Weighs 22 lbs.

Lafayette
Model RK 825
 12 x 12 x 7 $\frac{1}{4}$ inches
 \$139.95



Stereo or mono record-playback with 3 speeds—1 $\frac{7}{8}$, 3 $\frac{3}{4}$, and 7 $\frac{1}{2}$ ips. Features sound-with-sound, sound-on-sound, separate tone and volume controls, two VU meters, tape counter (three-digit), horizontal or vertical position, two built-in speakers. Frequency response 40-15,000 Hz at 7 $\frac{1}{2}$ ips \pm three db. Signal-to-noise ratio 46 db. Comes with two dynamic mikes.

Lafayette
Model RK 835
 15 3/4 x 14 x 7-5/16 inches
 \$179.95



All-transistor four-track units featuring vertical or horizontal operation, pushbutton input selector, sound-on-sound, sound-with-sound, stereo headphone monitoring, three speeds (7 1/2, 3 3/4, 1 7/8 ips), digit counter with pushbutton reset, two self-contained five-inch speakers. VU meters, individual volume controls and separate tone control. Has seven-inch reel capacity. Frequency response 30-18,000 Hz ± three db at 7 1/2 ips. Signal-to-noise ratio 50 db. Includes two dynamic mikes.

Magnavox
Model TR200S
 22 x 8 1/2 x 15 inches
 \$249.90



Three speed (1 7/8, 3 3/4, 7 1/2 i.p.s.) solid-state stereo/mono unit with four speakers (two 6 1/2-inch x 10 1/2-inch, two 2-inch with cross-over networks), heavy duty four-pole motor, tone control, digital counter, pause control, monitor switch. Includes two dynamic mikes. 7-inch reel.

Lafayette
Model RK 845
 15 3/4 x 14 x 7-5/16 inches
 \$229.95



All transistor four-track unit featuring push-button record (both channels) and input selector. Has sound-on-sound, sound-with-sound, disc to tape through magnetic phono inputs, three speeds (7 1/2, 3 3/4, 1 7/8 ips), outputs for stereo monitoring, four-digit counter, calibrated VU meters, two volume controls plus tone control, two dynamic self-contained 5 by 7-inch speakers, reel capacity seven inches. Frequency response 40-18,000 Hz ± three db at 7 1/2 ips. Signal-to-noise ratio 50 db. Power output of two watts per channel.

Magnavox
Model TA828
 14 1/2 x 13 x 8 inches
 \$279.90

Walnut-housed ensemble with detachable wing speaker systems each containing two 6 x 9-inch and two 4-inch speakers.

Magnavox
Model IV9000
 20 1/4 x 10 1/4 x 16 1/4 inches
 \$349.90



Three-piece ensemble in walnut housings. Features include seven tab mode controls, two VU meters, digital counter, 10-watt output, pause control, automatic shutoff, sound-on-sound, sound-with-sound. Complete with two mikes.

Lafayette
Model RK960
 22 x 15 1/2 x 8 3/4 inches
 \$299.95



Full stereo automatic reversing, three-speed stereo portable with built-in 5 x 7-inch speakers. Features direct recording from magnetic or ceramic pickup, automatic shutoff, pushbutton mode controls, sound-on, and sound-with-sound, tape counter, dual capstan drive, two VU meters, stereo headphone jack, tone controls. Response 30 to 22,000 c.p.s. at a three-decibel variance. Signal-noise ratio 50 db. Mikes extra.

Masterwork
Model M792
 5 1/2 x 12 x 14 1/4 inches
 \$79.95

Two-track mono portable, two speeds seven-inch reels, 3 x 5-inch speaker, push button controls, pause stop, VU meter, digital counter, complete with mike and earphone.

Lafayette
Model RK810
 11 5/8 x 12 1/4 x 6-2/3 inches
 \$89.95

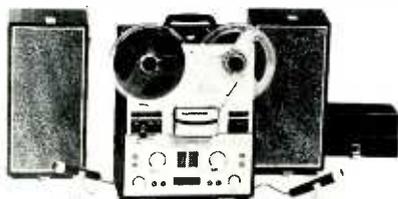


Four-track two-speed mono record/playback and stereo playback (with external amplifier) portable with digital counter, VU meter, tone control, one-knob mode control with "pause" position, 5- by 3-inch speaker, complete with mike and accessories. Response 40 to 15,000 Hz. Signal-to-noise ratio 42 db.



**Masterwork
Model M812**
22 x 14 x 7 inches
\$139.95

Vertical design solid state four-track recorder. Operates at speeds of $7\frac{1}{2}$ and $3\frac{3}{4}$ ips. Has two 4- by 6-inch permanent-magnet speakers in detachable enclosures. Up to 12-foot stereo separation. Pushbutton controls for stop, rewind, pause, $7\frac{1}{2}$ and $3\frac{3}{4}$ ips play. Has two VU level indicators, two tone controls, digit counter, left and right channel record buttons. Accessories include two cylinder mikes with stands, ebony leatherette-covered wood cabinet and speaker enclosures.



**Panasonic
Model RQ-706S**
14 x 12 x 6-3/4 inches
\$125.00



Three-speed ($7\frac{1}{2}$, $3\frac{3}{4}$, $1\frac{7}{8}$ ips) solid-state unit with two 6-inch x $3\frac{1}{4}$ -inch speakers, VU meter, three digit index counter, automatic recording level control, seven transistors, sound monitor switch. Seven-inch reel. Frequency response 50 to 15,000 Hz at $7\frac{1}{2}$ ips; 50 to 8,000 Hz at $3\frac{3}{4}$ ips. Signal-to-noise ratio 40 db. Power output four watts. Includes bar-type dynamic mike. Weighs $17\frac{1}{2}$ lbs.

**Panasonic
Model RS760S**
14 x $13\frac{1}{2}$ x 7 inches
\$179.95



Three-speed, four-track stereo portable with built-in six-inch oval speakers, complete with two mikes. Has pause control, two VU meters, sound-on-sound, digital counter, tone and volume controls for each channel.

**Panasonic
Model RS761**
 $7\frac{7}{16}$ x $11\frac{1}{4}$ x $6\frac{1}{2}$ inches
\$269.95



Four-track, three-speed stereo ensemble with matching wing speaker systems, all housed in walnut. Features vertical or horizontal operation, digital counter, pause control, automatic shut-off, two VU meters, sound-on-sound, separate recording level controls. Output 16 watts.

**Panasonic
Model 790S**
 $16\frac{1}{2}$ x 17 x 9 inches
\$349.95



Four-track, three-speed stereo portable with detachable wing speaker systems. Features sound-with-sound, automatic reverse, two VU meters, digital counter, dust cover, pause control, and dual capstan drive. Output 20 watts. Response 30 to 18,000 Hz. Signal-to-noise ratio 52 db. Comes with two mikes and small accessories. (Shown without speaker systems).

**Panasonic
Model RS-763S**
 $23\frac{1}{8}$ x 14 x $7\frac{1}{2}$ inches
\$429.95

Stereo four-track record-playback and FM/AM/FM stereo with pushbutton automatic tuning. FET tuner distant-local sensitivity switch, stereo eye indicator, function indicator. Equipped with four-speaker system combining two $6\frac{1}{2}$ -inch woofers and two $2\frac{3}{8}$ -inch tweeters. Has separate bass and treble tone controls, three-speed operation, seven-inch reel size, sound monitoring, four-digit tape counter, pause control, automatic shut-off, fast forward, two VU meters, sound-on-sound, sound-with-sound. Comes with solar bronze dust cover, two dynamic mikes.

**Philco
Model TRR75TN**
 $7\frac{1}{4}$ x $15\frac{1}{2}$ x $11\frac{3}{4}$ inches
\$109.95



Seven-inch reel mono two track portable, three speeds, AC operation, automatic tape lifter, VU meter, pause control, six-inch oval speaker, tone control. Comes with mike.

**Philco
TRR76BK**
 $15\frac{1}{2}$ x $13\frac{3}{4}$ x $7\frac{3}{4}$ inches
\$179.95



Upright four-track stereo, seven-inch reel capacity, three speeds, sound-on-sound, sound-with-sound, automatic tape lifter, VU meter with switch, tone control. Comes with two mikes.

Philco
Model TRR78WA
19 x 12½ x 6 inches
\$289.95

Four-track stereo ensemble in walnut veneer. Consists of three speed recorder and two separate speaker systems complete with two mikes. Features include automatic tape lifter, automatic reversing with repeat, automatic shutoff, sound-on-sound, two VU meters, pause control.

RCA
Model YLG48
17 x 18½ x 12½ inches
\$229.95



Swing-out, lift-off speaker enclosures housing two 8-inch oval speakers and two tweeters which may be separated up to 16 feet are featured in this solid state stereo recorder. Runs at speeds of 7½, 3¾, and 1⅞ ips. Has seven-inch reel capacity, sound-plus-sound, PA switch, pause switch, dual VU meters, dual volume and tone controls, push-button controls, automatic level control, tape counter. Comes with two mikes.

RCA
Model YLH28
16¼ x 13½ x 8½ inches
\$99.95



Solid state mono recorder with six-inch front-mounted oval speaker. Equipped with pause switch; VU meter; volume and tone controls; automatic level control; pushbutton controls for record, rewind, stop, forward and fast forward; tape counter; mike with stand. Handles reels up to seven inches.

Revox
Model 1224 Series A77
\$630.00

Same as deck Model 1304 with the addition of portability, two output amplifiers and four built-in loudspeakers.

Roberts
Model 770X SS
20 x 13 x 9½ inches
\$429.95



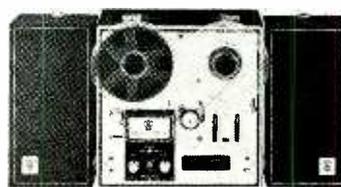
Exclusive "cross field head" and four speed option are featured in this solid state stereo professional type recorder. Has two 4-inch speakers, sound-on-sound, built-in tape cleaner, multiple connection jack, four-digit counter, hysteresis-synchronous two-speed motor, equalization switch, two stereo headphone jacks. Operates at speeds of 1⅞, 3¾, 7½ and 15 ips (with optional adapter kit). Frequency response 30 to 22,000 Hz at 7½ ips, 30 to 18,000 Hz at 3¾ ips, 30 to 9,000 at 1⅞ ips. Signal-to-noise ratio +50db. Power output 20 watts per channel. Weight 42 lbs.

RCA
Model YLH35
15½ x 20¼ x 8¼ inches
\$129.95



Mono solid state three-speed (1⅞, 3¾, 7½ ips) recorder has built-in seven-inch oval speaker, PA switch, VU meter, automatic level control, push button controls, tape counter, volume and tone controls. Housed in Vinyl-covered wood cabinet with storage space for accessories.

Roberts
Model 1725III
14 x 13½ x 12 inches
with speakers attached
\$269.95



Stereo compact featuring 18,000 cycle wide-range audio sound, possibility of 15 ips speed with optional attachment, two-circuit headphone jack, dual VU meters, anti-backlash rocker arm on the trailing side of the heads, automatic motor shut-off at end of tape, pause control, complete portability. Frequency response 40 to 18,000 Hz at 7½ ips. Output power of five watts per channel. Signal-to-noise ratio 45 db. Operates at 7½, 3¾, 1⅞ ips. (15 ips optional). Weighs 36 lbs.

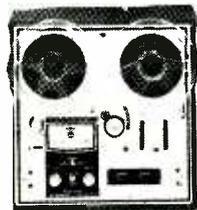
RCA
Model YLG43
16¼ x 18½ x 8½ inches
\$179.95



Two six-inch oval side-mounted speakers are featured in this solid-state stereo portable. Has three-speed transport—7½, 3¾, 1⅞ ips—sound-plus-sound, public address switch, pause switch, two VU meters, dual volume and tone controls, pushbutton controls, dual channel record controls, automatic level control, tape counter, automatic shut-off, dual mike input. Comes with two mikes.

Roberts
Model 1725W-III
 recorder 15½ x 13½ x 7½ inches
 speakers 16 x 10 x 7 inches each
 \$299.95

Same as Model 1725 III except for speakers which are in separate walnut enclosures. Weighs 55 lbs.



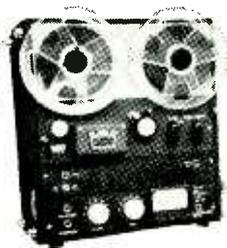
Roberts
Model 1725 8 L III
 15 x 13½ x 9½ inches
 \$359.95

Stereo reel-to-reel and cartridge recorder-player designed to include the possibility of recording one's own auto stereo cartridges from LP records and FM multiplex. Has dual VU meters, illuminated indicators with push-button track selection, pause lever, automatic shut-off, three-digit index counter, built-in tape cleaner, built-in speakers with sound deflectors, two dynamic mikes with stands. Operates at 3¾ and 7½ ips. Frequency response at 7½ ips 50 to 15,000 Hz. at 3¾ ips 50 to 10,000 Hz. Output power of two watts per channel. Signal-to-noise ratio 45 db. Weighs 34 lbs.



Roberts
Model 192
 15¾ x 14½ x 9¼ inches
 \$349.95

Full or half-track mono with self-contained speaker, 7½ and 3¾ i.p.s. speeds, index counter, VU meter, vertical or horizontal operation, pause lever, three watts output. Response 50 to 10,000 c.p.s., ±4 db.



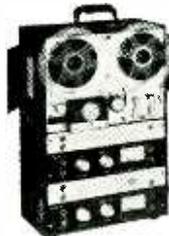
Roberts
Model 400X
 17¼ x 16 x 12¼ inches
 \$799.95

Unit with Cross Field head system, automatic reverse, automatic select play, three heads, three motors, solid-state circuitry, with removable modules, push-button solenoid controls, echo effect, remote control play optional, 10½ inch reel adaptability, sound-on-sound, sound-with-sound, sound-over-sound channel transfer sound, hysteresis synchronous capstan drive, electrical speed change, digital counter. Power output 68 watts. Response 25-22,000 c.p.s. ± 3 db.



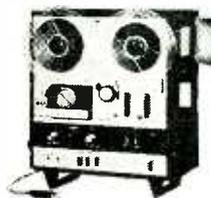
Roberts
Model 770X
 20½ x 14 x 9 inches
 \$399.95

Vertical-styled four-track three-speed self-contained portable running at 1⅞, 3¾ and 7½ i.p.s. optional. Sound-with-sound, hysteresis synchronous motor, Cross Field head for wider response, two VU meters, four-digit counter, mute-monitor switch, public address capability, separate tone and equalization controls for each channel, automatic shutoff switch, pause-edit control, two 4-inch speakers. Frequency response 40 to 20,000 c.p.s. at 7½ i.p.s., three decibel variance. Wow and flutter 0.15%. Signal-to-noise ratio 45 db.



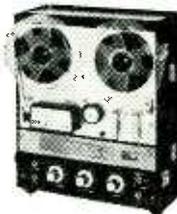
Roberts
Model 778X
 15 x 13½ x 9½ inches
 \$429.95

Combination reel and 8-track cartridge recorder featuring Cross Field head system. Runs at 1⅞, 3¾ and 7½ i.p.s. with 15 i.p.s. optional, and has 12 watts output. Has combined VU meters, illuminated read-out indicators for track selection, built-in speakers, digital counter, automatic shutoff, tone controls, stereo headphone jack, and vertical or horizontal operation. Response in reel operation 30 to 23,000 c.p.s. at a three decibel variance. Signal-to-noise ratio better than 50 db. Cartridge response 50 to 15,000 c.p.s., with signal-noise ratio better than 45 db.



Roberts
Model 1700
 15½ x 13¾ x 7½ inches
 \$179.95

Two-track two-speed mono unit (3¾ and 7½ ips) with built in digit counter, VU meter, pause control, vertical or horizontal operation. Includes dynamic PA system, three mike. Response 40 to 12,000 c.p.s., ± 3 db. Signal-to-noise ratio 45 db.



Roberts
Model 1719
 15 x 14⅞ x 9 inches
 \$199.95

Features include sound-with-sound, separate tone and volume controls, built-in speakers, two VU meters, digital counter, pause control, automatic stop at end of tape, stereo headphone jack, and public address capability. Runs at 3¾ and 7½ i.p.s. with 15 i.p.s. optional. Response 40 to 15,000 c.p.s. plus-or-minus three decibels. Signal-to-noise ratio 47 db.



Roberts
Model 1720
 15 x 14 $\frac{3}{8}$ x 10 $\frac{1}{2}$ inches
 \$219.95



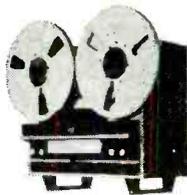
Same as Model 1719 but with detachable wing speakers.

Sony
Model 104A
 16 x 6 $\frac{1}{2}$ x 10 $\frac{3}{4}$ inches
 \$112.50



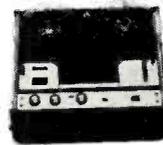
Dual track mono unit with seven-inch reel capacity. Features Sonymatic recording control, VU meter, automatic record control defeat switch, three-speed operation, solid state circuitry, automatic shut-off, pause control and digital tape counter. Frequency response 40 to 18,000 Hz at 7 $\frac{1}{2}$ ips. Signal-to-noise ratio 48 db. Weighs 16 lbs.

Roberts
Model 5000 X
 15 $\frac{1}{8}$ x 17 x 9 $\frac{3}{4}$ inches
 \$699.95



Solid state upright recorder with push-button operation, Cross Field head, four digit counter, two VU meters, hysteresis synchronous direct drive capstan, three inside-out motors, sound-on-sound facility. Tape speeds 1 $\frac{7}{8}$, 3 $\frac{3}{4}$ i.p.s., 7 $\frac{1}{2}$ i.p.s. and optional 15 i.p.s. Uses 10 $\frac{1}{2}$ -inch reels. Two built-in speakers, four heads, equalized preamp outputs. Power output 68 watts. Frequency response 40 to 20,000 c.p.s. Signal-to-noise ratio 50 db.

Sony
Model 105
 14 $\frac{3}{4}$ x 13 $\frac{1}{4}$ x 7 $\frac{1}{4}$ inches
 \$139.50



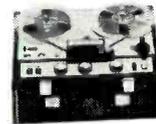
Solid state four-track mono-phonetic portable, self-contained with built-in speaker, automatic volume control, retracting pinch roller, three speeds (1 $\frac{7}{8}$, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s.), public address feature, language and music training facilities for student-teacher track comparison, tone control, automatic shutoff, pause control, VU meter and digital counter. Frequency response 50 to 12,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s. Signal to-noise ratio 48 db or better. Wow and flutter 0.12%. Price includes microphone.

Sharp
Model RD708
 17 $\frac{3}{4}$ x 15 $\frac{3}{8}$ x 11 $\frac{3}{8}$ inches
 \$169.95



Four-track stereo portable with detachable wing speaker systems, two VU meters, three speeds, digital counter, sound monitoring, sound-with-sound, automatic shutoff.

Sony
Model 200
 15 x 16 x 9 inches
 \$199.50



Self-contained four-track stereo portable with detachable wing speaker systems, two speeds (3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s.), two VU meters, sound-on-sound, automatic tape lifter, pause control, digital counter. Frequency response 50 to 14,000 c.p.s. at top speed. Wow and flutter less than 0.19%. Signal-to-noise ratio better than 45 db. Includes two dynamic mikes.

Sharp
Model RD709
 16 x 18 $\frac{1}{2}$ x 7 $\frac{3}{4}$ inches
 \$299.50

Full stereo portable ensemble consisting of recorder, plus clip-together speaker systems. Features automatic reversing in record and playback modes, sound-on-sound, sound-with-sound, three motors, three speeds, four heads, vertical/horizontal operation, sound monitoring, digital counter, push-button mode controls. 16 watts output, two VU meters. Total weight 66 pounds.

Sony
Model 230
 \$249.50



Twenty-watt recording system with connections for hooking in tuner, phono, etc. Three speeds, two integrated speaker systems, stereo headset jack, tone control, automatic shutoff, digital counter, two VU meters. Complete with two cardioid mikes. Carrying handle.

Sharp
Model RD711
 20 x 15 $\frac{3}{8}$ x 11 $\frac{1}{4}$ inches
 \$149.95

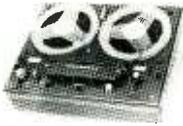
Similar in most respects to Model 708 but contains built-in monitor speakers. Available is a set of optional matching speaker systems which fold together to form a single unit. The set is \$40.

Sony
Model 230 CPW
 \$299.50

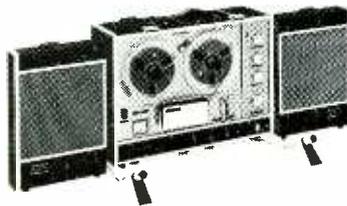


Same as 230 except in walnut housings for bookshelf or table use rather than as a portable.

Sony
Model 540
9-11/16 x 9-5/16 x 15-7/16 inches
\$299.50



Complete stereo tape system with solid state circuitry, external quadrantal speakers delivering 20 watts output power. Has non-magnetizing record head, scrape flutter filter, automatic shut-off, pause control, four digit counter, noise suppressor switch, sound-on-sound, sound-with-sound, instant tape threading, record interlock, automatic tape lifter, vertical or horizontal operation, three speeds (7½, 3¾, 1⅞ ips), dual VU meters, speaker mode selector switch, PA address capability, two mikes and two aux inputs. Seven-inch reel capacity. Frequency response at 7½ ips 30 to 20,000 Hz. Signal-to-noise ratio 50 db. Weighs 41 lbs. 10 oz.



Sony
Model 560
\$449.50

Three-speed, 20-watt output tape system with automatic reverse, with full complement of inputs, outputs and controls to serve as stereo "center." Features two detachable speaker systems, headset jack, two VU meters, tone controls, vertical or horizontal operation, and automatic shutoff. Complete with two cardioid mikes.



Tandberg
1221X Model
15¾ x 11-13/16 x 6⅞ inches
\$485



Two-track three-speed transistorized stereo recorder with an output power of 10 watts per channel. Has a separate cross field bias head, double volume controls for both inputs and outputs for mono mixing and monitoring when recording stereo or mono programs. Input for magnetic pick-up and input selector for line or mike pick up or mono mixing, internal-external speaker switching. One level controls tape transport. Has VU meter, counter, two built-in speakers. Also available in four-track (Model 1241X) at same price. Weighs 23.4 lbs.

Tandberg
Model 1521
15¾ x 11-13/16 x 6¾ inches
\$287.00

Three-speed two-track mono recorder. Features two volume controls for the inputs (mike and line) for mixing possibilities, two line inputs with different impedance and sensitivity, separate playback volume control for monitoring, VU meter, four-digit counter. Frequency response of: 30 to 20,000, 30 to 13,000, 30 to 7,000 Hz at 7½, 3¾, and 1⅞ ips, respectively. Weighs 19.2 lbs.

Tandberg
Model 1541
\$313.50

Four-track stereo with possibility of simultaneous playback of two tracks. Otherwise the same as two-track Model 1521.

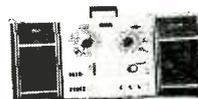
Tandberg
Model 1421
15 x 11¾ x 6¾ inches
\$250.00

Two-speed, two-track mono recorder with separate volume controls for mike and line input allowing mixing. Separate playback volume control for monitoring. Single lever operation, pause switch, recording level meter, tape counter, amplifier with 10 watt output can be used as PA system. Comes in choice of wood bases. Frequency response: 30 to 13,000 and 30 to 7,000 Hz at 3¾ and 1⅞ ips, respectively. Signal-to-noise ratio at 3¾ ips, 59 db. Weighs 18.8 lbs.

Tandberg
Model 1441
\$270.00

Four-track with various dual controls related to stereo operation. Otherwise the same as Model 1421.

TEAC
Model A1600U
16¾ x 15⅛ x 11¾ inches
\$519.50



Portable with two detachable speaker systems. Features push-button mode controls, dual VU meter, digital counter, vertical or horizontal operation, three motors, four heads, automatic reverse, automatic shutoff, stereo effect, add-recording, two speeds, four amplifiers. Response 30 to 20,000 Hz. Signal-noise ratio 50 db.

TEAC
Model A2020
21 3/4 x 13 1/2 x 10 5/8
inches
\$399.50

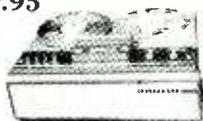


Two-piece ensemble consisting of deck with one speaker and amplifier with second speaker in matched wood housings, walnut finish. Features include automatic reverse record and playback mechanism, four heads, two speeds, headphone amplifier, tone control, dual VU meter, sound-on-sound ability, sound monitoring, vertical or horizontal operation, automatic shutoff. Response 30 to 20,000 Hz. Signal-noise ratio 50 db.

Toshiba
Model GT 701V
13 x 13 x 7 1/2 inches
\$119.50

Solid state two-track portable designed for vertical operation has automatic or fixed level recording speaker monitor switch permitting silent taping, automatic record level, 6- by 4-inch speaker, seven-inch reel capacity, digital counter, meter record level indicator. Frequency response 70 to 10,000 Hz at 7 1/2 ips, signal-to-noise ratio 40 db at 7 1/2 ips. Weighs 18 lbs.

Telefunken
Model 200
15 1/2 x 6 1/2 x 12 1/2 inches
\$129.95



Two-track monophonic electric portable table model with 3 x 5-inch speaker, operating at 3 3/4 i.p.s., pause control push-button operation, VU meter, tone control, solid state circuitry.

Toshiba
Model GT810S
16 x 7 1/2 x 15 1/4 inches
\$249.50



Self-contained four-track stereo system with two detachable speakers, vertical or horizontal operation, sound-on-sound, sound-with-sound, pause-edit control, two-way monitoring, two recording level meters, automatic level control, digital counter, three speeds, tone and volume controls, built-in storage compartment for accessories. Response 50 to 15,000 c.p.s. Signal-to-noise ratio better than 40 db. Complete with two dynamic mikes.

Telefunken
Model 201
6 1/2 x 12 1/2 x 15 1/2 inches
\$149.95



Mono version of model 203 has four tracks, built-in 4 x 5 inch speaker. Tape speed 3 3/4 i.p.s. Less microphone.

Toshiba
Model GT 840S
13 1/2 x 15 3/4 x 10 inches
\$219.50

Solid state four-track stereo has Toshiba "Electro-Hinge" mountings to eliminate cable attachments to speakers, dual volume controls and level meters, single knob tape control, vertical or horizontal operation, stereo or mono record and playback at 3 3/4 and 7 1/2 ips, digital counter, selector switch permitting 1/4 track mono record/playback in "stereo," takes up to seven-inch reel, detachable speakers. Frequency response 60 to 10,000 Hz at 7 1/2 ips. Comes with two dynamic mikes. Weighs 28.7 lbs.

Telefunken
Model 203
6 1/2 x 12 x 15 inches
\$219.95



Transistorized unit with four-track stereo playback in conjunction with auxiliary amp and speaker, two preamps for recording and playback, one amp with 4 x 5 inch speaker for monitoring, pause control, push-button operation, automatic stop via switching foil. Tape speeds 7 1/2, 3 3/4 i.p.s. Frequency response 40 to 15,000 at 3 3/4 i.p.s. Wow and flutter 0.3% at 3 3/4 i.p.s. Signal-to-noise ratio 45 db. No microphone.

Telefunken
Model 204U
8 3/4 x 13 3/4 x 18 1/2 inches
inches
\$299.95



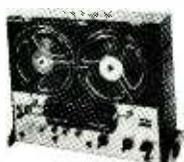
Four-track, two-speed (3 3/4, 7 1/2 i.p.s.) stereo unit with vertical operation, tone and volume controls, two built-in speakers, push-button digital counter, two record level indicators, automatic tape-end stop. Solid-state electronics. Frequency response 40 to 15,000 c.p.s. at 3 3/4 i.p.s.; 40 to 18,000 c.p.s. at 7 1/2 i.p.s. Signal-to-noise ratio 45/50 db. Wow and flutter 0.2%/0.15%. Weight 32 lbs.

Uher
Model 6000L
13 3/4 x 13 3/4 x 7 inches
\$160



Two-track, two-speed (3 3/4, 7 1/2 i.p.s.) monophonic portable 4 x 6-inch speaker, push button controls, automatic level control, VU meter, automatic stop, digital counter, pause control, tone control. Response 40 to 18,000 c.p.s. at 7 1/2 i.p.s. Wow and flutter 0.2%.

Uher
Model 10,000
17 3/4 x 13 3/4 x 7 3/4 inches
\$550.00



First vertically operating recorder for Uher has 20 watt amplifier and two built in speakers. Features four speeds, (1/8, 1/4, 3/4, 7 1/2 ips) built-in Dia pilot for sound-slide synch, sound-on-sound, sound-with-sound, echo effect, two- and four-track head assembly modules, built-in single channel and stereo mixer, amplifier usage independent of unit, walnut carrying case with plexiglas lid. Frequency response of 20 to 20,000 Hz and \pm two db at 7 1/2 ips. Wow and flutter 0.4% at 7 1/2 ips.

V-M
Model 744
14 3/4 x 22 x 11 7/8 inches
\$339.95



Stereo portable with detachable wing speaker systems, complete with two mikes. Uses eight push tab mode controls, push-button track selectors, two VU meters, automatic tape shutoff, digital counter. Offers "Add-a-Track" for study purposes. Response 50 to 15,000 Hz. Signal-noise ratio 46 db.

Viking
Model 880
Stereo Compact Series
14 1/2 x 20 1/2 x 8 1/2 inches
Model 880
\$449.95



Quarter-track record and play. Same basic characteristics as Model 88 Stereo Compact but in portable self-contained form, with speakers and transistorized amplifiers.

V-M
Model 748
14 x 21 1/4 x 11 5/8 inches
\$239.95

Portable solid state stereo with three-speeds, four tracks plus "Add-a-Track," detachable speakers. Plays both mono and stereo at 7 1/2, 3 3/4 and 1 7/8 ips. Takes reel up to seven inches. Has dual recording level meter, monitoring, automatic shut-off, digit counter, pause button, two 6-inch oval speakers. Accommodates optional V-M slide projector synchronizer (Model 1458). Frequency response 50 to 15,000 Hz, at 7 1/2 ips. Signal-to-noise ratio 46 db. Weighs 31 lbs.

V-M Corp.
Model 733
7 1/2 x 13 x 14 1/2 inches
\$189.95



Self-contained four-track monophonic portable with 5 x 7-inch speaker, three speeds (1/8, 3/4, 7 1/2 i.p.s.), digital counter, pause control, headphone jack on panel, bar-level-type tube, separate bass and treble controls. Response 50 to 15,000 c.p.s. Signal-to-noise ratio 46 db. Wow and flutter less than 0.25% at 7 1/2 i.p.s. Includes microphone.

V-M
Model 754-3
14 3/4 x 27 1/4 x 9 inches
\$399.95



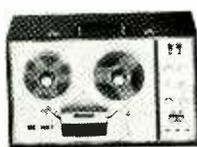
Self-contained four-track stereo with satellite speakers, three speeds (1/8, 3/4, 7 1/2 ips) and AM/FM/FM stereo tuner. Includes "Add-a-Track," push button controls, headphone jack, digital counter, two VU meters, slide projector synchronizer socket, pause control, automatic shutoff, reel stays. Frequency response 50 to 15,000 Hz. Signal-to-noise ratio 46 db. Wow and flutter less than 0.25%. Includes two microphones.

V-M
Model 734
14 x 16 x 8 inches
\$189.95



Solid state stereo portable features V-M "Add-a-Track" allowing playback listening on one track while recording on another. Has three speeds, two 6-inch side-mounted oval speakers (four watts output per channel), pause control, vertical operation, seven-inch reel capacity, input for use with V-M slide projector synchronizer Model 1458, pushbutton operation, VU meters, digit counter. Frequency response 50 to 15,000 Hz at 7 1/2 ips. Signal-to-noise ratio 46 db. Weighs 21 lbs.

Webcor
model 2000
\$249.95



Three-speed four-track stereo with two 6 1/2 by 3-inch speakers, 10 watts per channel output, seven-inch reel capacity, calibrated level controls, VU meters, digital counter, three inputs, two outputs. Features pause control, automatic tape lifters, vertical or horizontal operation. Runs at speeds of 7 1/2, 3 3/4, and 1 7/8 ips. Frequency response at 7 1/2 ips 30 to 15,000 Hz \pm three db. Signal-to-noise ratio 55 db. Comes with two mikes. Weighs 20 lbs.

Ampex
Model 755
15¾ x 13 x 6½ inches
\$229

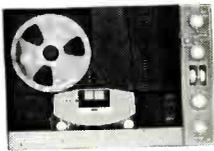
Offers sound-with-sound, sound-on-sound, echo and duet effects, monitoring, three heads, two VU meters, three speeds, automatic shutoff, and dual capstan drive. Overall record/reproduce frequency response measured at the pre-amplifier output is (plus-or-minus four decibels) 50 to 15,000 Hz at 7½ ips. Signal-to-noise ratio from peak record level to broad band noise at the preamp output is 46 db at the same speed. Optional walnut cabinet \$9.95.

Ampex
Model 1455
13 x 15¾ x 6½ inches
\$329



Automatic monitor stereo deck with pause control, dual capstan drive, two-second automatic threading, automatic reverse, four heads, tape monitor, sound-with-sound. Frequency response 50 to 15,000 Hz ± 4 db, sound-to-noise ratio 46 db.

Ampex
2100 series
19 x 13½ x 7½ inches



Four-track, solid-state, three-speed (1⅞, 3¾, 7½ ips) stereo unit with bi-directional recording, monophonic mixing, automatic reverse, automatic threading, deep gap heads, dual capstan drive, VU meters, separate volume controls for each channel, tone controls, automatic tape lifters, monitor switch, automatic cue provision, push-button digital counter. Frequency response 50 to 17,000 Hz ± 2 db at 7½ ips; 50 to 10,000 Hz ± 3 db at 3¾ ips. Signal-to-noise ratio 50 db at 7½ ips; 48 db at 3¾ ips. Wow and flutter .08% at 7½ ips; .15% at 3¾ ips. Peak power output 30 watts.

Model 2150
\$399

Uncased deck-with preamplifiers only.

Model 2161
\$469

Complete outfit includes 2160 recorder and two slide-on speaker systems each containing a six-inch woofer and 3½-inch tweeter, two dynamic microphones.

Bell & Howell
Model 2263
\$259.95

Same as Model 2293 but does not have "air jet autoloader" (automatic threading of tape).

Concord
Model 510-D
13¾ x 11 x 5½ inches
Under \$160



Three-speed stereo deck in teak enclosure. Features sound-on-sound, digital counter, two VU meters, edit control, vertical or horizontal operation. Response 30 to 18,000 c.p.s., 3 db variance. Signal-noise ratio better than 55 db.

Bell & Howell
Model 2293
8½ x 13-1/3 x 15½ inches
\$299.95

See reel stereo portable recorders, Model 2297 for basic features and specifications (except power output).

Concord
Model 776D
20 x 13½ x 7 inches
Less than \$250



Automatic reversing stereo deck with automatic shutoff, two VU meters, cue control for editing, two speeds, vertical or horizontal operation, stereo headphone pack, sound-with-sound capability. Response 30 to 20,000 Hz, three db variance. Signal-noise ratio better than 50 db.

Concertone
Model 302D
14½ x 13 x 4½ inches
\$169.95

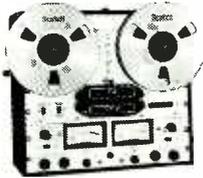


Four-track stereo, three speeds, automatic shut-off, pause lock cue control, twin VU meter, two separate record buttons, and digital counter. Signal-noise ratio 50 db. Response 30 to 16,000 Hz at 7½ ips.

Craig
Model 2404
15½ x 7 x 13 inches
\$154.95

Three speeds, single "V" operation control, with pause stop, concealed recording controls, dual level meters, front panel stereo headphone jack, end-of-tape cutoff switch, mounted in walnut base. Response 30 to 18,000 c.p.s. at 7½ i.p.s. Wow and flutter less than 0.15 per cent. Signal-to-noise ratio better than 40 db.

**Crown
CX724
\$1295**



Professional four-track stereo deck using three motors and three heads and running at three speeds (7½, 3¾ and 1⅞ ips). Up to 10½-inch reel capacity, automatic stop, two 5-inch VU meters. Response 30 to 30,000 Hz at 7½ ips. Signal-to-noise ratio 60 db.

Note: Also available with mono electronics and in a variety of heads and speeds configurations on order.

**Crown
CX824
\$1790**



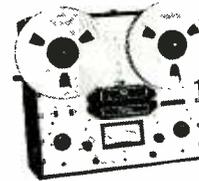
Professional four-track stereo deck running at 15, 7½ and 3¾ ips and offering 10½-inch reel capacity. Remote controllable, computer logic control photocell automatic stop, three motors, 5-inch VU meters. Response at 15 ips 30 to 30,000 Hz. Signal-to-noise ratio 60 db. Options include remote record, low impedance inputs and outputs.

Note: Available in other configurations to order. Model shown here in optional "YC" console for \$295.

**Crown
Model SX824-P2
19 x 17½ x 7½ inches
\$1790**

Essentially same as SX700 series but transport utilizes "computer logic control" to prevent broken tapes and offers remote control capability. Records and plays ¼-track stereo and includes separate two-track play. Also available in other configurations, as noted under SX series, at \$1395 and \$1495.

**Crown
Model CX712
19 x 15¾ x 7½ inches
\$995**



Half-track mono record-play tape deck, solid-state, three speeds (3¾, 7½, 15 ips), three heads, three motors, push-button solenoid control, automatic stop, 10-inch reels, five-inch VU meter, A/B monitoring, echo effect. Frequency response 30 to 25,000 Hz, two decibel variance at 7½ ips. Signal-to-noise ratio 55 db. Wow and flutter 0.09%. New torque reeling motors.

**Crown
Model SX 724
15¾ x 19 x 8 inches
\$995**



Professional four-track stereo deck featuring magnetic braking, straight line threading, automatic stop tape sensor, four microphone or line inputs, two stereo headphone outputs, bias metering and adjustment, third head monitor with A-B switch, sound-with-sound recording, hysteresis synchronous drive motor, two 5-inch VU meters, 10½-inch reel capacity. Runs at 3¾ and 7½ ips. Response 30 to 25,000 Hz two decibel variance. Signal-to-noise ratio 55 db. Wow and flutter 0.09 per cent.

Note: Also available in full or half-track mono as Models SX711 and SX712 at \$895, and two-track stereo as Model SX722 at \$995. Other configurations to special order.

**Crown
Model CX 844
19 x 24½ x 7½ inches
\$2880**



Professional portable four-track, four channel (in line) deck with speeds of 15, 7½ and 3¾ ips. Has 10½-inch reel capacity. Up to eight mikes can be mixed and each track can be individually synchronized using "Trac-Sync". Acts as a computer-logic transport for cue, edit and remote control. Has built-in equalizers, mixers, five-inch VU meters, echo and optional balanced inputs and outputs.

Dynaco
Model Beocord 2000
 18 x 14½ x 9 inches
 \$498

Three-speed (1⅞, 3¾, 7½ i.p.s.) solid-state, three-head four-track stereo deck, hysteresis synchronous motor, three stereo mixing inputs, pressure-padless system, built-in splicing aid, 8-watt amplifiers, headphone jack on panel, VU meters, automatic shutoff, cueing, sound-on-sound, echo facilities, monitoring facilities, pause control, tape counter, plug-in circuit modules. Frequency response 40 to 16,000 c.p.s. at 7½ i.p.s., plus-or-minus two decibels. Wow and flutter 0.075% RMS. Signal-to-noise ratio better than 50 db.

KLH
Model 40
 \$600

With economy of tape cost and longer uninterrupted playing time in mind, KLH has designed this machine especially for use at the tape speed of 3¾ ips which, they claim, has been optimized by the Dolby System allowing audible reduction of noise at 3¾ ips of 10 db. Unit also operates at 7½ ips. Featured is single calibrated VU meter for simultaneous reading of both channels, individual level-controlled mike and auxiliary inputs for each channel with full mixing capability, master record level knob, automatic rewind and shut-off. Walnut base is optional extra.



Harman-Kardon
Model TD3
 11⅞ x 9⅞ x 6 inches
 \$199.95

Three-speed deck in walnut housing, vertical or horizontal operation, two VU meters, one-knob mode control, individual record buttons and separate record level controls, pause position, digital counter, three heads, automatic equalization for each speed, automatic shut-off, and sound-on-sound. Response 25 to 22,000 c.p.s. Signal-noise ratio 50 db.



Lafayette
Model RK 870
 12⅝ x 10⅝ x 6 inches
 \$119.95

Features horizontal or vertical record/playback in four-track stereo or mono at three speeds (7½, 3¾, 1⅞ ips). Has transistorized record and playback preamps, sound-on-sound, sound-with-sound, separate ¼-track, three-digit counter, two VU meters, separate volume controls, seven-inch reel capacity. Frequency response 40 to 18,000 Hz ± 3 db at 7½ ips. Signal-to-noise ratio 50 db.



Model TD2
 \$149.95

Virtually same as TD 3 except has two heads.

Knight
Model KG415
 14½ x 14 x 8½ inches
 \$249.95 as a kit

Stereo deck kit with three-speed Viking tape transport in assembled form, electronics in easy-to-assembled modular form, with built-in bias test oscillator. Single knob mode control, automatic shutoff, digital counter, sound-with-sound echo effect, stereo headphone amplifier, illuminated channel and mode indicators. Response 50 to 18,000 Hz, two db variance. Signal-noise ratio 50 db or better.

\$269.95 kit with 5 reels of tape and other accessories

\$279.95 kit with two mikes and deluxe walnut base

\$309.95 kit in portable case with two mikes and stereo headphones

JVC Nivico
Model 1684
 15⅝ x 13⅝ x 6¾ inches
 \$149.95

Solid state four-track stereo deck operating at speeds of 7½ and 3¾ ips with built-in pre-amplifier. Has dual VU meters, digit counter, and single knob function control. Features patented reclining stand for vertical and horizontal placement or any point between. Handles up to seven-inch reel. Supplied with cables for DIN and pin jack connectors. Weighs 22 lbs.



Lafayette
Model RK920
 17 x 15½ x 8¼ inches
 \$199.95

Automatic reversing stereo deck with automatic shut-off, three-speeds, sound-on, and sound-with-sound, monitoring, dual capstan drive, tape counter, two VU meters, headphone jack. Response 30 to 22,000 c.p.s., three-decibel variance. Signal-noise ratio 50 db.



Lafayette

Model RK830

11 $\frac{3}{4}$ x 9 $\frac{3}{4}$ x 5 $\frac{3}{4}$ inches
\$159.95



Three-head, two-speed stereo deck, horizontal-vertical operation, sound-on-sound, sound-with-sound, single-knob mode control, tape counter, two VU meters. Response 40 to 18,000 c.p.s. at three-decibel variance. Signal-noise ratio 50 db.

Magnavox

Model KO884

13 $\frac{3}{4}$ x 11 $\frac{1}{4}$ x 7 inches
\$179.90

Three speeds, automatic shutoff, two level controls, digital counter, two VU meters, sound-with-sound, one-knob mode control, complete with two mikes. Wood cabinet.

Magnecord

Model 1020

13 $\frac{3}{64}$ x 17 $\frac{9}{16}$ x 6 $\frac{5}{8}$ inches
\$570



Solid-state two speed (3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s.) four-track stereo tape deck (with optional walnut base at \$25), three heads, hysteresis synchronous drive motor, two split-capacitor reel drive motors, two VU meters, automatic shutoff, 8 $\frac{1}{4}$ -inch reel capacity, digital counter, dual headphone jacks. Flutter and wow .18 per cent at 7 $\frac{1}{2}$ i.p.s. Frequency response 45 to 18,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s., two decibel variance. Signal-to-noise ratio 52 db at 7 $\frac{1}{2}$ i.p.s.

Magnecord

Model 1022

19 x 15 $\frac{3}{4}$ x 12 inches
\$788



Two-track solid-state stereo deck, two speeds (7 $\frac{1}{2}$, 15 i.p.s.) with selectable two-track erase, two-track record, two-track play and quarter-track play heads. Hysteresis synchronous drive motor, two reel drive motors, two VU meters for record and playback levels, monitoring from tape or source, simultaneous record and playback, switchable equalization, earphone monitoring, push-button controls. Frequency response 30 to 16,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s., plus-or-minus 2 db. Signal-to-noise ratio 53 db. both speeds. Flutter and wow 0.17% at 7 $\frac{1}{2}$ i.p.s.

Magnecord

Model 1021

19 x 15 $\frac{3}{4}$ x 12 inches
\$708

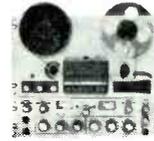


Monophonic solid-state tape deck with full-track erase, record and half-track play heads. Two speed (3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ i.p.s.) hysteresis synchronous motor, two separate reel drive motors, simultaneous record and playback, tape source monitoring, VU meter, remote start-stop, position for fourth head. Wow and flutter 0.2 per cent at 7 $\frac{1}{2}$ i.p.s. Frequency response 20 to 15,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s. plus-or-minus two decibels. Signal-to-noise ratio 53 db at both speeds.

Magnecord

Model 1024

19 x 15 $\frac{3}{4}$ x 12 inches
\$648

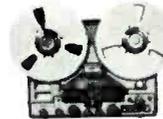


Solid-state two-speed (3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s.) four-track stereo deck, two VU meters, push-button controls, hysteresis synchronous drive motors, optional position for fourth head, 8 $\frac{1}{4}$ -inch reel capacity, monitor source, automatic shutoff. Frequency response at 7 $\frac{1}{2}$ i.p.s. 45 to 18,000 c.p.s., two decibel variance. Wow and flutter 0.18 per cent at 7 $\frac{1}{2}$ i.p.s. Signal-to-noise ratio 51 db at 7 $\frac{1}{2}$ i.p.s. Also available in 17 $\frac{7}{8}$ -3 $\frac{3}{4}$, and 7 $\frac{1}{2}$ -15 i.p.s. configurations. Same, with fourth head (two-channel stereo play) installed \$673

Magnecord

Model 1028

17 $\frac{5}{8}$ x 12 $\frac{7}{8}$ x 12 inches
\$995



Two-speed (7 $\frac{1}{2}$, 15 i.p.s.) professional unit with three heads, pushbutton controls, VU meters. Reel size to 10 $\frac{1}{2}$ inches. Frequency response 35-16,000 c.p.s. \pm 2 db at 7 $\frac{1}{2}$ i.p.s.; 35-18,000 c.p.s. \pm 2 db at 15 i.p.s. Signal-to-noise ratio 55 db per channel. Weight 47 lbs.

Magnecord

Model 1048

17 $\frac{5}{8}$ x 12 $\frac{7}{8}$ x 11 $\frac{3}{16}$ inches
\$995

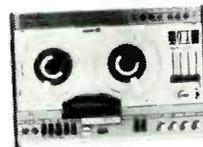


Two-speed (7 $\frac{1}{2}$, 3 $\frac{3}{4}$ i.p.s.) professional unit with three heads, three motors (capstan drive is hysteresis synchronous motor), VU meters, removable upper and lower head covers. Up to 10 $\frac{1}{2}$ inch reel. Frequency response 40 to 16,000 c.p.s. \pm 2 db at 7 $\frac{1}{2}$ i.p.s.; 50 to 7,500 c.p.s. \pm 2 db at 3 $\frac{3}{4}$ i.p.s. Signal-to-noise ratio 52 db. Weight 47 lbs.

NordMende

Model 8001 T

\$429.95



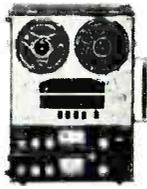
Professional solid-state stereo four-track deck is a part of the NordMende audio component series. Features built-in mixer for recording from four separate sources simultaneously and volume control of each source by means of four separate slide controls while monitoring. Supplied with built-in amplifiers and speakers for monitoring. Also features four-track mono, three speeds with frequency response of 40 to 18,000 Hz at 7 $\frac{1}{2}$ ips, three heads, three Pabst motors, sound-on-sound, sound-with-sound, horizontal and vertical positioning, remote control, pause, signal-to-noise ratio of 54 db, rewind speed of 48 seconds for 1,200 ft., three watts per channel. Weighs 36 lbs.

Panasonic
Model 766US
 13 $\frac{1}{4}$ x 11 x 5 $\frac{1}{2}$ inches
 \$149.95



Four-track stereo, three speeds, two VU meters, digital counter, single lever operation, automatic shutoff, pause control, in walnut base.

Panasonic
Model RS1000S
 21 x 16 x 9 inches
 \$699.95



Stereo deck with two solid state recording amplifiers, two playback preamps, four laminated heads, three motors, automatic tape reverse, automatic shutoff, push-button operation, four-unit digital counter, VU meters, tape head or sound source monitoring, public address capacity, pause control, sound-on-sound. Tape speeds 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ i.p.s. 25 to 20,000 c.p.s. frequency response at 7 $\frac{1}{2}$ i.p.s. Wow and flutter less than 0.15% at 7 $\frac{1}{2}$ i.p.s. Signal-to-noise ratio 50 db.

Panasonic
Model RS 768US
 18 $\frac{1}{2}$ x 7 $\frac{1}{2}$ x 13 inches
 \$219.95



Four-track stereo with synchronous motor for tape speed accuracy. Equipped with three-head taping system for recording, playback and erase. Operated by pushbuttons and levers with dual VU meters for separate channel monitoring. Has fast forward and rewind controls, four-digit tape counter, pause control, noise suppressor switch automatically cutting out unwanted noises and an automatic shutoff for end of tape. Finished in walnut grain.

Panasonic
Model RS 796US
 19 $\frac{1}{2}$ x 14 x 7 $\frac{3}{4}$ inches
 \$249.95

Sound-on-sound and sound-with-sound are provided for in this four-track stereo unit which records and plays in both directions at any of three speeds (1 $\frac{7}{8}$, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips). Has simple lever operation, two VU meters, four-digit tape counter, pause control, automatic shut-off, vertical or horizontal operation, 90 KC recording bias.

RCA
Model MLG56
 8 $\frac{1}{4}$ x 16 x 15 $\frac{1}{2}$ inches
 \$169.95



Solid state stereo running at three speeds (1 $\frac{7}{8}$, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips) takes seven-inch reels. Features sound-plus-sound, public address switch, pause switch, dual VU meters, six pushbutton controls, automatic level control, automatic shut-off, tape counter. Comes with two ceramic mikes, neck cords and stands.

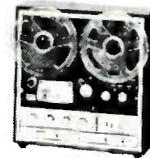
Revox
Model 1304 A77 Series
 \$499

Basic four-track stereo deck (two-track at same price Model 1302) features two speeds (3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips), three motor tape transport system, all-silicon transistors, electronically governed capstan motor, electronic speed change, all metal stereo heads. Provides for sound-on-sound, echo, multiplay on-off tape monitoring, accommodation for 10.5-inch reel. All tape transport functions can be operated by remote control. Unit plus optional amplifiers allowing power output of 20 watts plus optional walnut cabinet costs \$599. Frequency response 50 to 15,000 Hz \pm 1.5 db at 7 $\frac{1}{2}$ ips. Weighs approximately 34 lbs.

Roberts
Model 450
 11 $\frac{7}{8}$ x 15 $\frac{3}{4}$ x 5 $\frac{1}{2}$ inches
 \$195.95

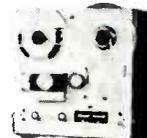
Three-head, two-speed solid state stereo deck operating in vertical or horizontal position with all silicon transistor record/play amplifier, sound-with-sound, stereo headphone pack, two VU meters, built-in tape cleaner, equalization switch, three-digit counter, tape source monitor, pause control, automatic shutoff, vinyl dust cover. Frequency response 50 to 15,000 Hz at 7 $\frac{1}{2}$ ips, 50 to 10,000 Hz at 3 $\frac{3}{4}$ ips. Signal-to-noise + 50 db. Weighs 26 lbs.

Roberts
Model 1721
 15 $\frac{1}{8}$ x 14 $\frac{5}{8}$ x 6 $\frac{1}{2}$ inches
 \$179.95



Essentially same as Roberts Model 1719 portable reel recorder but without amplifier section and speakers. Same response and signal-to-noise ratio as Model 1719.

Roberts
Model 1740X
 17 x 5 $\frac{3}{8}$ x 10 $\frac{3}{8}$ inches
 \$299.95



Features horizontal or vertical operation, two VU meters, four speed option, including 1 $\frac{7}{8}$ i.p.s., stereo headphone jack, digital counter, automatic shutoff, pause lever, equalization selector, and crossfield heads. Response 30 to 22,000 c.p.s. at 7 $\frac{1}{2}$ i.p.s., three decibel variance. Signal-to-noise ratio better than 50 db.

Sony
Model 355
 15-3/16 x 7-1/16 x 14
 inches
\$229.50

A walnut-finish base and vinyl dust cover house this solid-state stereo. Features sound-on-sound, tape-and-source monitoring, noise suppressor switch, high frequency bias, non-magnetizing heads, instant tape threading, dual VU meters, pause control, four-digit tape counter, automatic shut-off, vertical and horizontal operating positions. Frequency response 20 to 22,000 Hz at 7 1/2 ips, 20 to 17,000 Hz at 3 3/4 ips, 20 to 9,000 Hz at 1 7/8 ips. Signal-to-noise ratio 52 db. Weighs 22 lbs.

Sony
Model 666D
 17-3/16 x 8-1/16 x
 16-5/8 inches
\$489.50



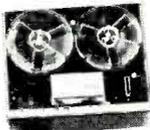
Sony automatic tape reverse (ESP) and noise reduction system (SNR) featured. ESP has scanning function automatically sensing voice or music modulations. When modulations stop ESP automatically reverses tape direction. SNR automatically reduces playback amplifier gain during quiet passages. Unit has three motors, pushbutton operation, high frequency bias, scrape flutter filter, non-magnetizing heads, dual VU meters, digit counter. Frequency response 20 to 22,000 Hz at 7 1/2 ips, 20 to 15,000 Hz at 3 3/4 ips. Signal-to-noise ratio 53 db without SNR, with SNR 59 db. Seven-inch reel capacity. Weighs 48 lbs. 13 ozs.

Sony
Model 770
\$750



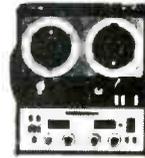
Professional portable stereo deck operating on built-in rechargeable nickel-cadium batteries. Has ServoControl motor and Vari-Speed control, three speeds, built-in peak limiter, Sony noise reduction system, remote start-stop control, sound-on-sound, tape source monitoring. Frequency response 20 to 22,000 Hz at 7 1/2 ips \pm 2 db. Signal-to-noise ratio 58 db without "SNR". Wow and flutter 0.09% at 7 1/2 ips.

Sony
Model TC155
\$99.50



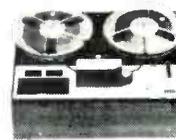
Playback-only stereo deck, three speeds, stereo headphone jack, scrape flutter filter, in walnut enclosure.

Sony
Model 777
 15 7/8 x 5 3/4 x 5 1/2 inches
\$695



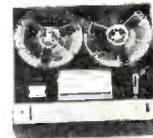
Solid state four-track stereo deck, three motors, push button relay controls, remote control (included in price), modular circuit boards, microphone and line mixing, tape and source monitoring, two VU meters, automatic tape lifters, "Trac-Stan" drive to reduce tape slippage, digital counter. Two speeds (3 3/4, 7 1/2 i.p.s.) Frequency response 30 to 16,000 c.p.s. at top speed, two decibel variance. Signal-to-noise ratio 50 db or better. Wow and flutter 0.09% RMS or better. Available with two-track heads. Optional mixer (Model MX777, \$175.50) provides for advanced recording techniques.

Sony
Model 250A
 14 1/4 x 11 3/8 x 6 1/2 inches
\$149.50



Four-track stereo and mono playback only deck, two speeds (3 3/4, 7 1/2 i.p.s.), solid-state circuitry, automatic shutoff, automatic tape lifter, pause control, digital counter. Frequency response 50 to 15,000 c.p.s. at top speed, three decibel variance. Signal-to-noise ratio better than 50 db. Wow and flutter less than 0.1%.

Sony
Model TC255
\$179.50



Three-speed stereo deck with digital counter, sound-with-sound capability, two VU meters, automatic tape lifters, automatic shutoff, and scrape flutter filter. Runs at 3 3/4 and 7 1/2 i.p.s. In walnut enclosure.

Sony
Model 560-D
\$349.50

Three speeds, automatic tape reverse. See Model 560 in portable recorder section for additional specs.

Stancil-Hoffman
Model R-70 Series
 8 3/4 x 19 x 11 1/2 inches
\$790 to \$1,075

Basic model tape deck available in single speeds ranging from 15/32 to 7 1/2 i.p.s. and in six different head configurations, including 8-track on special order. Features include 8 3/4-inch reels, three motors, transistorized plug-in electronics, bias indicator lamp, electro-dynamic braking, four-digit counter, push-button operation, automatic tape lifters, monitoring facilities. Frequency response at 7 1/2 i.p.s. 50 to 12,000 c.p.s., plus-minus 2 db. Wow and flutter at 15/32 less than 0.5% with decreasing amounts at higher speeds. Also available as playback decks only in six different models ranging from \$692.50 to \$790.

**Tandberg
Model 64X**
16 x 12 x 6½ inches
\$549



Three speed (1⅞, 3¾, 7½ i.p.s.) four-track stereo tape deck in teak base, four-digit counter, three heads, stop-start pause button, level meters, sound-on-sound, echo effects, track adding, direct monitor, automatic tape stop, hysteresis motor. Frequency response 40 to 16,000 c.p.s. at 7½ i.p.s., two decibel variance. Wow and flutter better than .1 per cent at 7½ i.p.s. Signal-to-noise ratio at least 53 db.

Model 62X
Same as above but with half-track heads
\$549

**Tapesonic
Model 70-TRF**
21 x 19 x 8½ inches
\$542

Same as Model 70-TRSQ except full track.

**TEAC
Model A1200U**
17 x 15½ x 9¾ inches
\$299.50

Three heads, three motors, two speeds, push-button controls, automatic shutoff, sound-with-sound, stereo echo, digital counter, walnut cabinet, sound monitoring. Response 30 to 20,000 Hz. Signal-noise ratio 50 db. With carrying case \$324.50.

**Tandberg
Model 65**
16 x 12 x 6 inches
\$209.50

Three speed (1⅞, 3¾, 7½ ips) four-track stereo playback only tape deck designed for installation into hi-fi systems with own electronics. Includes playback head and provision for adding erase and record heads. Synchronous motor, four-digit counter. Frequency response 30 to 16,000 Hz at 7½ ips, plus-or-minus two db.

**TEAC
Model A1500**
16 x 16¾ x 9⅝ inches
\$399.50

Four heads, three motors, two speeds, automatic reverse, automatic shutoff, push-button controls, sound-with-sound, stereo echo, digital counter, dual VU meter. Response 30 to 20,000 Hz. Signal-noise ratio 50 db. With carrying case \$424.50.

**Tapesonic
Model 70-TRSQ**
21 x 19 x 8½ inches
\$615



Three-speed (3¾, 7½, 15 i.p.s.) solid-state, quarter track stereo/mono unit with three heads, three motors including hysteresis synchronous direct-drive electrical speed change capstan motor, monitoring facility, pushbutton operation, two VU meters, mixing channels, pilot lights to indicate when each track is recording, two tape-tension arms, vertical or horizontal operation. 10½-inch reel. Frequency response 35 to 26,000 c.p.s. ± 2 db at 15 i.p.s.; 30 to 20,000 c.p.s. ± 2 db 7½ i.p.s.; 30 to 10,000 c.p.s. ± 2 db at 3¾ i.p.s.. Signal-to-noise ratio 56 db at 15 i.p.s.; 53 db at 7½ i.p.s.; 50 db at 3¾ i.p.s. Wow and flutter .08% at 15 i.p.s.; .12% at 7½ i.p.s.; .23% at 3¾ i.p.s. Weight 69 lbs.

**TEAC
Model A4010SU**
17½ x 17½ x 9¾ inches
\$469.50

Two-speed, three-motor, four-head stereo deck with two VU meters, automatic reverse, automatic shutoff, tape tension control, digital counter, automatic equalization, in walnut housing. Response 30 to 20,000 Hz. Signal-to-noise ratio 55 db.

**Tapesonic
Model 70-TRSH**
21 x 19 x 8½ inches
\$615

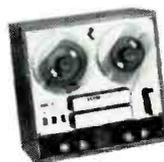
Same as Model 70-TRSQ except two-track stereo unit.

**Tapesonic
Model 70-TRH**
21 x 19 x 8½ inches
\$480

Same as Model 70-TRSQ except two-track mono unit.

**TEAC
Model A 2010**
\$309.50

Stereo three-speed unit featuring four heads, foil-sensing automatic reverse system, one-motor drive, symmetrical control lever, center capstan system, dual VU meter, synchronized band brake, pause button, all-silicon transistor amplifier, headphone amplifier, 100 kHz bias oscillator, four-digit counter, automatic shutoff, tone control, vertical or horizontal operation. Frequency response: 30 to 20,000, 30 to 15,000, 40 to 7,000 Hz at unit's tape speeds of 7½, 3¾ and 1⅞ ips. respectively. Signal-to-noise ratio 50 db.



TEAC
Model A 2040
\$379.50



Stereo deck with 20 watt power amplifier, three precision heads, automatic reverse symmetrical control and an outer rotor motor. Also equipped with dual VU meter, pause button, all silicon transistor amplifier, head-phone amplifier, 100 kHz bias oscillator, four digit counter, automatic shutoff, tone control. Operates in vertical or horizontal position. Portable case. Frequency response at unit's three speeds: 30 to 20,000, 30 to 15,000, 40 to 7,000 Hz at 7½, 3¾ and 1⅞ ips, respectively. Signal-to-noise ratio 50 db.

TEAC
Model A 7030
\$749.50

Four-track two-channel stereo with two eddy current outer rotor motors and a two-speed hysteresis synchronous motor. Features 15 ips speed as well as 7½ ips. Has reel tension pushbutton, automatic shutoff, three-stage direct coupled amplifier, 100 kHz bias oscillator. Frequency response at 15 ips, 30 to 20,000 ± 2 db. Signal-to-noise ratio 55 db. Takes up to 10½ inch reels.

TEAC
Model A 2050
11⅜ x 10⅜ x 5½
inches
\$349.50

Stereo deck features recording and playback in both tape directions, VU deluxe meters, four precision heads, automatic reverse, symmetrical control, outer rotor motor. Has all-silicon transistor amplifier, headphone amplifier, tone control, 100 kHz bias oscillator, four-digit counter, automatic shutoff. Frequency response at 7½ ips 30 to 20,000 Hz. Signal-to-noise ratio 50 db. Weighs 33 lbs.

Toshiba
Model PT 850S
5¼ x 15⅝ x 13⅜
inches
\$179.50

Vertical or horizontal operation in a four-track stereo playing up to seven-inch reel at 3¾ or 7½ ips. Features single knob tape control, twin volume controls, level meters, pause control, record amplifier, playback pre-amp, digit counter. AC bias and AC erase. Frequency response 50 to 15,000 Hz at 7½ ips. Signal-to-noise ratio 45 db at 7½ ips. Walnut veneer cabinet. Weighs 22 lbs.

TEAC
Model A 4000S
17½ x 13 x 9¾ inches
\$329.50

Two-speed (7½, 3¾ ips) four-track stereo with four heads, one hysteresis synchronous motor and two eddy current outer-rotor motors, electrified automatic reverse (four hours uninterrupted play), dual speed capstan motor, automatic shutoff, preamplifiers, tape tension control switch, four-digit counter. Frequency response 30 to 20,000 Hz at 7½ ips, at 3¾ ips 30 to 15,000 Hz. Signal-to-noise 55 db. Weighs 42 lbs.

Uher
Model 7300
15 x 14 x 7 inches
\$199

Three head design, sound-on-sound, complete off-tape monitoring in stereo are features of this stereo two-speed deck. Equipped with dual VU meters, automatic shutoff, individual channel level controls, four-digit counter. Has four-track stereo operation. Housed in walnut base. Frequency response 40 to 18,000 Hz ± 2.5 db, at 7½ ips, 40 to 15,000 Hz ± 2.5 db at 3¾ ips. Signal-to-noise ratio 48 db. Weighs 15 lbs.

TEAC
Model A6010
20⅞ x 17½ x 8¼ inches
\$664.50



Professional vertical-styled, two speeds, featuring continuous playback auto-reverse via phase sensing, outer-rotor motors, four heads, tape tension change system, automatic shutoff, four-digit counter, optional 15 i.p.s. speed, monitor switch, head-phone amplifier, two jumbo VU meters. Response 30 to 20,000 c.p.s. Signal-noise ratio 55 db.

Uher
Model 9500
17¾ x 13¾ x 7¾
inches
\$450

Same as Model 10,000 without amplifier or speakers. See Uher listing in first section.

Uher
Model 7000D
 14 x 15 x 7 inches
 \$149.50



Runs at 3¾ and 7½ i.p.s. Features sound-on-sound, four-digit counter, two VU meters, automatic shutoff with metallic leader, and push-bar operation. Response 40 to 18,000 c.p.s. at top speed, 2.5 decibel variance. Wow and flutter 0.08 percent rms. Signal-noise ratio 48 db. Comes in walnut base.

Viking
Model 423
 15¾ x 12⅝ x 13⅞ inches
 \$294.95

Three-speed (7½, 3¾, 1⅞ ips) solid-state stereo or mono deck with two motors, pause control, vertical or horizontal operation, no pressure pads, four digit index, tone control, calibrated VU meters, seven-inch reel. Frequency response 50 to 15,000 Hz ± 3 db at 7½ ips, 50 to 10,000 Hz ± 3 db at 3¾ ips. Signal-to-noise ratio 50 db at 7½ ips. Wow and flutter 0.2% at 7½ ips. With walnut base \$269.

Uher
Model 9000-L
 15 x 7 x 13 inches
 \$400



Stereo tape deck with equalization selection for CCIR or NAB standards, vernier adjustment of playback head for exact azimuth alignment, A/B switch for sound before and after recording, four digit counter, solid state circuitry, illuminated VU meters, tape lifters, automatic voice control, slide projector synchronization, removable tape head covers. Frequency response 20 to 20,000 c.p.s. ± two db at 7½ i.p.s. Wow and flutter 0.1% at 7½ i.p.s.

Viking
Model 433
 15¾ x 14⅜ x 8¾ inches
 \$394.95

Features stereo monitoring, mixing from several inputs, echo, sound-on-sound effects, pause control, three motors, three hyperbolic contoured heads, pressure-padless tape-to-head contact, vertical or horizontal operation, two VU meters, digital counter, straight line loading, and automatic tape equalization when speed is set. Response 40 to 18,000 Hz at 7½ ips at a three decibel variance. Signal-to-noise ratio 54 db peak or better. Wow and flutter less than 0.2 per cent at 7½ ips. Available with walnut base. Remote pause control accessory at \$25.

V-M
Model 1492
 14 x 20 x 8½ inches
 \$209.95

Three speeds, two VU meters, pause lever, digital counter, automatic shut-off, vertical or horizontal operation, sound-with-sound, push-button controls. Response 50 to 15,000 c.p.s. Signal-noise ratio 46 db.

Viking
Model 807
 6½ x 13½ x 15 inches
 \$124.95



Tape playback-only deck for mono or stereo quarter or half-track tapes via head shift lever. Two speeds (3¾, 7½ i.p.s.) "Edit-Eze" head cover allows operator to edit, cue and thread tape with ease. Automatic run-out switch, hyperbolic playback head without pressure pads, tape lifters. Wow and flutter less than 0.2% RMS at 7½ i.p.s. Response 30 to 18,000 c.p.s.

Wollensak
Model 6100
 \$160

Same features as Wollensak Model 6300 except has no speakers. (See first recorder section.)

Battery-Operated Portable Recorders

Aiwa
Model TPR102
11 $\frac{3}{8}$ x 9 x 4 $\frac{3}{8}$ inches
\$109.95



Two-track mono capstan drive recorder with AM/FM radio. Tape speeds of 3 $\frac{3}{4}$ and 1 $\frac{7}{8}$ ips. Uses five-inch reels and operates on six "D" size batteries or AC current. Comes with microphone. Weighs 10 $\frac{1}{2}$ lbs.

Aiwa
Model TP708
2 $\frac{3}{4}$ x 10 $\frac{3}{4}$ x 10 $\frac{3}{8}$ inches
\$59.95



Two-track mono, two-speed AC/DC portable with four-inch reel capacity, dual purpose meter, push-button controls, built-in speaker, complete with earphone and mike. Weighs 6 pounds, 6 ounces.

Aiwa
Model TP704
3 $\frac{3}{8}$ x 12 x 10 $\frac{3}{8}$ inches
\$89.95



Mono two-track, AC/DC two-speed portable with five-inch reel capacity, dual purpose meter, piano-key controls. Complete with earphone and mike. Weighs 11 pounds.

Aiwa
Model TP710
2 $\frac{7}{8}$ x 8 $\frac{1}{4}$ x 10 $\frac{1}{4}$ inches
\$44.95



Two-track, two-speed mono-portable, 3 $\frac{3}{4}$ -inch reel capacity, built-in three-inch speaker, automatic level control, and AC/DC operation. Complete with mike and earphone. Weighs five pounds.

Aiwa
Model TP705
3 $\frac{3}{8}$ x 10 $\frac{3}{8}$ x 12 inches
\$99.95



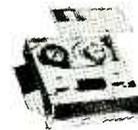
AC/DC two-track mono, two speeds, five-inch reel capacity, dual purpose meter, push-button controls, tone control, automatic level control, complete with remote control mike and earphone. Weighs 11 pounds.

Aiwa
Model TP713
3 x 11 $\frac{7}{8}$ x 12 inches
\$79.95



Two-track mono, two speeds, AC/DC operation, five-inch reel capacity, push-button controls, dual purpose meter, digital counter, complete with mike and earphone. Weighs 9 pounds.

Aiwa
Model TP-714
9 x 9 x 2 $\frac{5}{8}$ inches
\$29.95



Dual-track capstan drive, mono unit with two-speeds (3 $\frac{3}{4}$, 1 $\frac{7}{8}$ i.p.s.), six transistors, 6-inch x 2-inch PMD oval speaker, tone control, push-button operation. Powered by four "C" cells. Includes mike, earphone. Weight 4 lbs., 11 oz.

Aiwa
Model TP706
9 $\frac{1}{2}$ x 9 $\frac{1}{2}$ x 3 inches
\$49.95

Two-track, two-speed mono-portable, AC/DC, using 3 $\frac{3}{4}$ -inch reels, 2 $\frac{1}{4}$ -inch speaker, dual purpose VU meter, tone control, and push-button mode controls. Weighs 5 pounds, 7 ounces. Complete with mike and earphone.

Aiwa
Model TP715
9 $\frac{1}{2}$ x 9 $\frac{1}{2}$ x 3 inches
\$39.95



Two-speed two-track mono portable operating on four C cells, complete with microphone and earphone. Uses 3 $\frac{3}{4}$ -inch reels, built-in speaker, VU meter and push-button mode controls. Weighs five pounds.

Aiwa
Model TP-719
 16½ x 13 x 3⅝ inches
\$139.95



Dual-track, capstan drive mono unit with solid-state electronics (seven transistors), three speeds (7½, 3¾, 1⅞ i.p.s.), 5-inch x 3-inch PDM oval speaker, tone control, VU meter, fast forward, three digital counter. 7-inch reel. Powered by eight "D" cells or A/C current. Includes mike, earphone. Weight 16 lbs., 8 oz.

American Geloso
Model G651
\$142.50



Two-speed battery operated portable using a 5¾-inch reel for four hours of play. Has piano keyboard controls, capstan drive-dual track, VU meter for recording level and battery condition check, output for either headset, or external amplifier, and wide-range Geloso speaker. Comes with dynamic microphone with start-stop control, operates on "C" batteries or 220V AC current. Speeds of 1⅞ and 3¾ ips. Frequency response of 40-12,000 Hz at 7½ ips. Signal-to-noise ratio 48 db.

Aiwa
Model TP730
 3⅝ x 11 x 12¼ inches
\$59.95



Two-track, two-speed AC/DC mono portable with five-inch reel capacity, VU meter, push-button mode controls, automatic level control. Weighs 7 pounds, 11 ounces. Complete with mike and earphone.

American Geloso
Model TR-711
 2 x 7½ x 7 inches
\$149.50



Transistorized two-speed (3¾ and 1⅞ ips) monophonic tape recorder with combination level and battery condition meter, 2¼-inch speaker, monitoring facilities. Operates on six penlight cells or house current via optional adaptor. Frequency response 100 to 6,000 Hz. Wow and flutter .5 per cent. Signal-to-noise ratio 20 db. Comes with remote control microphone, dual earphone and carrying case. Weighs four lbs.

Aiwa
TP-1013
 3⅞ x 11½ x 15 inches
\$109.95



Two-speed (3¾, 1⅞ i.p.s.), solid-state, four-track unit with two 4-inch oval speakers. Powered by four "D" cells or A/C current. 5-inch reel. Includes two dynamic mikes.

Arvin
37L09
 9½ x 8⅝ x 3¼ inches
\$39.95



Two speed (3¾, 1⅞ i.p.s.), operates on six D cells or house current with aid of adapter, piano key controls, 3-inch reel capacity, VU meter, tone control, complete with dynamic remote control mike.

Allied
Model 1055
 11-4/5 x 9½ x 3½ inches
\$69.95



Two-track, mono, solid-state, two-speed (3¾, 1⅞ ips), battery/AC operated recorder with keyboard controls automatic level control, speaker monitor, three-digit counter (reset by pushbutton); record level meter also showing battery condition on playback, 3- by 6-inch speaker. Weighs nine lbs.

Arvin
Model 57L19
 11½ x 10 x 4 inches
\$69.95



Solid-state, two-speed (1⅞ 3¾ i.p.s.) capstan drive portable with push-button operation, tone control, record level meter, 5-inch reel. Powered by six "D" cells or A/C current. Frequency response 100 to 8,000 c.p.s. Signal-to-noise ratio 40 db. Includes remote control mike, earphone.

Arvin
67L29
\$119.95

Similar in most respects to Model 67L39 except for built-in 3 x 6½-inch speakers with sound reflector panels.

Arvin
Model 67L39
\$159.95



Three-speed (7½, 3¾, 1⅞ i.p.s.) solid-state stereo professional portable with four tracks, two detachable 5¼-inch oval speakers in side enclosures, 13 transistors, automatic tape lifter, two VU meters, digital counter. Powered by eight "D" cells or A/C current. Includes mike.

Concord
Model F-20
Sound Camera
6⅜ x 2¼ x 4½ inches
\$24.95



Adjustable-speed battery-operated monophonic portable using 2⅝-inch reels. Price includes remote control mike.

Channel Master
Model 6424
10½ x 8¼ x 3 inches
\$79.95



Runs at 1⅞ and 3¾ i.p.s. and uses 3¼-inch reels. One-knob mode control, dual purpose meter, tone control, and automatic level control. Response 100 to 6,000 c.p.s. Weighs 5½ pounds. Complete with remote control microphone, and vinyl carry case. Can be voice-actuated by use of Model 6590 Voca-Trol automatic voice actuator, \$12.95.

Concord
Model 300
3 x 10 x 9 inches
\$89.95



Two-speed (1⅞, 3¾ ips), solid-state capstan drive portable with instant reversal of tape direction at any point on tape, record and playback in both directions, PA systems facility, record level/battery checker. Four-inch reel. Frequency response 60 to 10,000 Hz at 3¾ ips. Powered by six "C" cells or A/C current. Includes dynamic mike. Weight 5½ lbs.

Channel Master
Model 6464
11¼ x 10 x 3½ inches
\$109.95



Portable operating off 6 D cells or house current via built-in circuitry. Five-inch reel capacity, solid state, running speeds 3¾ and 1⅞ i.p.s. Features push-button operation, automatic level control, tone control, VU meter and digital counter. Price includes mike. Weighs 8½ lbs.

Concord
Model 350
11½ x 11 x 4 inches
\$149.95



Automatic reversing battery-operated portable tape recorder with automatic voice activation. Runs at 1⅞ and 3¾ ips, five-inch reels, 3 x 6-inch speaker, recording level and battery condition meter, nine transistors, digital counter, can operate on house current via optional adapter, or six D cells. Includes dynamic remote control mike.

Concertone
Model 790
11¼ x 13⅞ x 5⅝ inches
\$239.95



Four-track stereo, battery and AC-operated, four speeds, seven-inch reel capacity, built-in 3 x 5½-inch speakers at sides, separate record, play and erase heads, two VU meters, pause control, digital counter, jam-proof selector switch, external speaker jacks, front panel monitor jack, independent volume and tone controls for each channel. Has built-in charger for use with ni-cad batteries. Response 30 to 15,000 c.p.s. at 7½ i.p.s. Wow and flutter less than .25% r.m.s. at 7½ i.p.s. Signal-to-noise ratio better than 45 db. Price includes two stereo mikes with stands and one remote control dictating type microphone.

Craig
Model TR212
8 x 9¾ x 3⅛ inches
\$39.95



Portable monophonic battery-operated unit using 3¼-inch reels, and running at 1⅞ and 3¾ i.p.s. Automatic volume control for recording, 2⅝ x 4-inch speaker, AC bias recording, uses 6 C cells and can also operate on house current via optional adaptor. Comes with remote control dynamic microphone.

Craig
Model 2106
10½ x 11½ x 4⅞ inches
\$69.95

Monophonic half-track, slim-line, five-inch reel capacity, battery or AC operation. "T" control lever, battery condition indicator, tone control with speaker monitor switch, digital counter, automatic level control, two speeds (1⅞ and 3¾ i.p.s.) Response at higher speed 150 to 7,500 c.p.s. Wow and flutter less than 0.3 per cent rms at 3¾ i.p.s. Weighs 9.2 pounds.

Craig
Model 2107
 10½ x 12 x 5¾ inches
 \$99.95



Monophonic half-track, battery or AC-operated, five-inch reel capacity. 3¾, 1⅞ and 1¼ ips, automatic level control, manual override, VU meter, piano key mode controls, pause (edit) control, voice activation, side-firing speaker, top carrying handle. Response at 3¾ ips 100 to 8,000 Hz. Price includes microphones and small accessories. Weighs 15.1 pounds with batteries.

Crowncorder
Model CRC 6250F
 16½ x 12 x 3½ inches
 \$169.95



Attache case type with built-in AM/FM radio. Features remote control switch on side of case, automatic level control with override, level and battery meter, five-inch reel capacity, 3 x 5-inch speaker. Also has 15-second message repeating capacity. Runs on six flashlight batteries or house current via built-in circuitry. Response 100 to 10,000 c.p.s. Speeds, 1⅞ and 3¾. Weight 12.6 pounds.

Craig
Model 2108
 \$54.95

Same as Model 212 but also battery condition meter, and auxiliary input jack for direct recording from radio or other sources.

Fi-Cord
Model 202
 9 x 6½ x 4½ inches
 \$339.50



Two-speed (3¾, 7½ i.p.s.) British-made portable with three-inch speaker, VU meter, built-in battery-tester, governor to assure correct tape speed, two inputs, two outputs, fast forward and rewind. Reel size 4 inches. Frequency response 50 to 12,000 c.p.s. at 7½ i.p.s.; 50 to 8,000 c.p.s. at 3¾ i.p.s.; both ±3 db. Powered by seven Mercury cells or AC current (via optional transformer) or 12 volt auto battery. Microphones available at \$24 to \$189.

Craig
Model 2202
 10½ x 12 x 5¾ inches
 \$199.95



Stereo four-track, battery or AC operated, 3¾, 1⅞ and 15/16 i.p.s., 5-inch reel capacity, piano key controls, edit control sound-on-sound, sound-with-sound, two VU meters, full complement of inputs and outputs. Built-in 2¾ x 4-inch speakers use folding side-mounted panel deflectors. Uses 16 transistors and 11 diodes. Response 100 to 10,000 c.p.s. at 3¾ i.p.s. Price includes two mikes and stands and small accessories. Weighs 17.3 pounds with batteries.

General Electric
Model M8130
 9 x 3½ x 7½ inches
 \$33.95



Features automatic level control, three-inch speaker, two speeds (3¾ and 1⅞ i.p.s.) rotary function switch, and earphone, complete with remote control mike. Runs on four D cells or AC via optional converter. Weighs four pounds.

Crowncorder
Model CTR6550S
 \$84.95

Same as Model CTR6650S but without tape repeater feature.

Crowncorder
Model CTR6650S
 14⅝ x 9-13/16 x 3¼ inches
 \$99.95



AC-DC or battery (six "D"-size) operated portable running at speeds of 1⅞ and 3¾ ips with patented repeater feature. Has five piano key controls for mode functions, tone control, volume control, tape counter, VU meter, 3- by 5½-inch speaker. Frequency response of 100 to 10,000 Hz at 7½ ips. Comes with dynamic mike. Weighs 8½ lbs.

General Electric
Model M8041
 15 x 9½ x 6½ inches
 \$79.95



Mono two speed (1⅞, 3¾ ips) portable with five-inch reel capacity. Operates on eight "D"-size batteries or A.C. house current. Has capstan drive, 5¼-inch speaker, pushbutton controls, digital counter, VU meter/battery checker, continuous bass/treble tone control, monitor switch for listening-while-recording, dynamic remote control microphone, earphone and remote control foot-pedal jacks.

General Electric
Model M8021
 8 x 9 $\frac{3}{4}$ x 2 $\frac{3}{4}$ inches
 \$24.95



Battery operated mono portable with 3 $\frac{1}{4}$ -inch reel capacity. Has solid state design, rim-drive tape transport, 3 $\frac{1}{2}$ -inch dynamic speaker with Alnico V magnet, record, play, rewind controlled by a single slide switch, automatic level control. Operates in either vertical or horizontal position. Runs on four "D"-size batteries.

Hitachi
Model TRQ310
 10 $\frac{1}{4}$ x 8 $\frac{3}{8}$ x 2 $\frac{3}{8}$ inches
 \$44.95



Transistor portable, two speed (3 $\frac{3}{4}$, 1 $\frac{7}{8}$ ips), AC and battery-operated (six C cells), three-inch reel capacity, automatic recording level control, supplied with remote control mike.

General Electric
Model M8120
 11-3/16 x 8 x 3 $\frac{1}{8}$ inches
 \$39.95



Mono two-speed (1 $\frac{7}{8}$, 3 $\frac{3}{4}$ ips) battery-operated portable. Features pushbutton operation. Has capstan drive, 4-by-2-inch oval speaker, dynamic control mike which stores in front compartment, record level indicating light for recording level, external power converter jack. Operates on four "D"-size batteries. Optional external power converter.

Hitachi
Model TRQ380
 \$54.95



AC-battery-operated mono portable with automatic level control, tone control, function lever, 2 $\frac{3}{4}$ x 4-inch speaker. Runs on D cells at 1 $\frac{7}{8}$ and 3 $\frac{3}{4}$ ips. Complete with remote control microphone. Uses three-inch reels.

Hitachi
Model TRQ570
 \$89.95



Five-inch reel portable, AC/DC operation, 1 $\frac{7}{8}$ and 3 $\frac{3}{4}$ ips speeds, push-button controls, digital counter, tone control, complete with remote control mike.

General Electric
Model M8230
 8 $\frac{1}{4}$ x 8 $\frac{1}{4}$ x 3 $\frac{1}{8}$ inches
 \$49.95



Mono two-speed (1 $\frac{7}{8}$, 3 $\frac{3}{4}$ ips) battery/AC operated portable with three-inch reel capacity. Operates vertically or horizontally on four "D"-size batteries. Has capstan drive, 3 $\frac{1}{2}$ -inch speaker, remote control mike with self-contained stand, start-stop switch for remote control, switchable automatic level control and VU meter for record level check.

JVC Nivico
Model 1541
 13 $\frac{3}{4}$ x 11 $\frac{1}{2}$ x 9 $\frac{1}{4}$ inches
 \$69.95



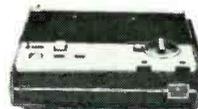
Operating on either six "D"-size batteries or AC house current at speeds of either 3 $\frac{3}{4}$ or 1 $\frac{7}{8}$ ips, this portable features up to two hours in recording time on five inch reels. Equipped with three-digit counter, fast forward button, monitor switch and rotary function lever. Weighs 7.3 lbs.

Grundig
Model TK2200
 14 x 8 $\frac{1}{2}$ x 5 inches
 \$149.95



Upright-styled mono unit with bar carry handle, five-inch reels, 3 $\frac{3}{4}$ and 1 $\frac{7}{8}$ i.p.s. speeds, five push-button mode controls, VU meter. Response 40 to 12,500 c.p.s. Runs on six C batteries. Optional AC converter available.

JVC Nivico
Model 1551
 3 $\frac{3}{4}$ x 12 $\frac{3}{8}$ x 9 $\frac{3}{4}$ inches
 \$89.95



Two-speed solid-state compact incorporates an auto-manual recording system. An electronic governor for the motor controls speeds (3 $\frac{3}{4}$, 1 $\frac{7}{8}$ ips). Has 1.5 watt output, five-inch reel capacity, all-in-one rotary function control, tone control, level meter-battery checker and several inputs. Plastic cabinet housing with plastic see-through dust cover. Operates on AC or six "D"-size batteries. Weighs 7.3 lbs.

JVC Nivico
Model 1351
 2¾ x 11 x 8¾ inches
 \$59.95



Very thin compact two-speed (¾ and 1⅞ ips) portable operating on AC/DC (without adaptor) or six "C"-size batteries. Features automatic volume control, recording level meter, speaker monitor system and three-digit counter. Has push-button controls, center mounted speaker and remote mike. Weighs 5.2 lbs.

Miniphon
Model 978H
 4 x 6 x 2 inches
 \$329.95



Battery-operated portable with push-button operation, two cartridge sizes, magazine load system. Tape speed 1⅞ i.p.s. Powered by batteries, rechargeable miniature "accumulator" auto battery or AC current (via adaptor). Frequency response 40 to 12,000 c.p.s. ± 3 db. Includes batteries, tape magazine, remote control mike, earphone. Weight 1 pound 2 ounces.

Magnavox
Model TR106
 9¾ x 10½ x 2¾ inches
 \$39.90



Mono six-transistor portable with push-button controls, tone and volume controls, level meter, dynamic microphone with remote switch. Has a 3¾-inch reel. Powered by six C cells. Tape speeds 1⅞, 3¾ ips.

Miranda
Mirandette
 9⅝ x 8⅝ x 2⅝ inches
 \$169.65

Transistorized two-speed (1⅞, 3¾ i.p.s.) portable with 2¾ x 5-inch oval speaker, recessed controls, six transistors. Powered by four D cells or AC current (via built-in adaptor). Frequency response 200 to 6,000 c.p.s. Includes remote control dynamic mike, three inch reel of tape, blank reel, carrying strap, AC cord. Other accessories available. Weight 7¼ pounds.

Magnavox
Model TR107
 11¾ x 11¾ x 3½ inches
 \$79.90



Mono seven-transistor portable with pushbutton operation, tone and volume controls, remote control dynamic microphone, earphone, accessory cable and repair tape. Has a 1¾ x 4⅞-inch speaker. Powered by six D cells or AC current. Five-inch reel. Tape speeds 1⅞, 3¾ ips.

Nagra
Model 111B
 8¾ x 12½ x 4¼ inches
 \$1,049.00

Transistorized three-speed (15, 7½, 3¾ i.p.s.) portable with fast forward and rewind, inputs and outputs for practically any recording use including one for synchronization with film, 30 transistors. Reel size up to 5 inches. Powered by 12 flashlight cells with aid of optional power packs or any type house current. Frequency response 30 to 15,000 c.p.s. at 15 i.p.s.; 40 to 15,000 c.p.s. at 7½ i.p.s.; 70 to 9,000 c.p.s. at 3¾ i.p.s. Signal-to-noise ratio 62 db at 15 i.p.s. 60 db at 7½ i.p.s., 50 db at 3¾ i.p.s. Imported direct from Switzerland. Weight 15 pounds.

Magnavox
Model TR109
 12½ x 10½ x 3¾ inches
 \$89.90



Two-speed (1⅞, 3¾ ips) mono capstan drive portable with push-button controls, seven transistors. Includes remote control dynamic mike, earphone. Uses five-inch reels.

Masterwork
Model M754
 12⅝ x 10⅞ x 4¾ inches



Solid-state two-speed (1⅞, 3¾ ips) battery or AC run portable playing up to five-inch reels. Equipped with capstan drive, recording level and battery indicator, AC "on" light, volume control, tone switch, automatic level control jacks for external speaker, radio input, microphone and remote control. Comes with remote control mike.

Panasonic
Model RQ-113S
 9 x 10 x 3¾ inches
 \$39.95



Two-speed (3¾, 1⅞ i.p.s.) capstan drive portable with vertical or horizontal operation, automatic recording level control, six transistors, 3¼-inch dynamic speaker, 3-inch reel. Powered by six "C" cells. Weight 5 lbs. Includes remote control dynamic mike.

Panasonic
Model RQ-156S
 9½ x 11½ x 4 inches
 \$79.95



Two-speed (3¾, 1⅞ i.p.s.) capstan drive portable with push-button controls, automatic record level control, six transistors, VU meter, 3¾-inch dynamic speaker, digital tape counter. 5-inch reel. Powered by four "D" cells or A/C current. Includes pencil-type dynamic remote control mike. Weight 7 lbs.

RCA
Model YLS16
 3⅜ x 9¾ x 11¼ inches
 \$49.95



Two-speed (3¾, 1⅞ ips) solid state portable operating on four "C"-size batteries or AC house current. Equipped with capstan drive; two-track operation; push-button controls for record, rewind, stop and play; remote control mike; precision VU meter with calibrated scale; external source input, front-mounted four-inch oval speaker. Takes three inch reels.

Panasonic
Model RQ194S
 14¼ x 11 x 4 inches
 \$125



Battery/AC portable using five-inch reels. Features include sound-with-sound and sound-on-sound capability, automatic level control, digital counter, VU meter, five push-button mode controls. Automatic power protector switches machine to batteries if house current fails. Runs at 1⅞ and 3¾ i.p.s. Response 100 to 8,000 c.p.s. at 3¾ i.p.s.

RCA
Model YLS15
 3⅜ x 9¾ x 11¼ inches
 \$39.95



Four "C"-size batteries operate this solid-state portable. Runs at speeds of 3¾ and 1⅞ ips. Has capstan drive, two-track operation, pushbutton controls, precision VU recording level indicator with calibrated scale, input for recording from external program source, mike with remote control switch. Takes three-inch-reels.

Panasonic
RQ501S
 11¾ x 3¾ x 10 inches
 \$125



Five-inch reel capacity, battery or AC operation, instant reversing in playback and record modes, automatic recording level control, sound monitor, 3¾ and 1⅞ i.p.s. speeds, VU meter, battery condition indicator. Response 80 to 8,000 c.p.s. at 3¾ i.p.s., 3½-inch speaker. Comes with dynamic remote control mike.

RCA
Model YLS21
 4 x 12¾ x 11¼ inches
 \$79.95



Automatic level control is featured in this battery or AC operated solid-state portable. Takes five-inch reel and includes push-button controls, tape usage counter, capstan drive, remote control mike, VU meter recording level indicator with calibrated scale, input for external source, front-mounted four-inch speaker. Operates at speeds of 3¾ and 1⅞ ips.

Philco
Model TRR30BL
 \$39.95

Three-inch reel capacity, 1⅞ and 3¾ i.p.s., five pushbutton controls, 3½-inch oval speaker, operation on six C cells, blue-beige plastic cabinet.

Philco
TRR33BK
 \$49.95

Same as TRR30BL but operation also on house current, plus provision for extension speaker.

Philco
TRR54BK
 \$69.95

Five-inch reel capacity, digital counter, rotary mode control, six-inch oval speaker, operation on six D cells plus house current, output two watts, 1⅞ and 3¾ i.p.s. speeds. Price includes remote control mike.

RCA
Model YZS05
 2½ x 8½ x 9¼ inches
 \$22.00



Designed for the youth market this portable recorder-player operates on two "C"-size batteries and one nine-volt battery. Has rim-drive; two-track operation; pushbuttons for record, rewind, stop and play; built in 2¼-inch oval speaker, jacks for earphone and mike. Weighs less than five lbs.

Sharp
Model RD-305
 3 3/4 x 11 1/8 x 7 1/2
 inches
\$39.95



Two-speed (3 3/4, 1 7/8 i.p.s.), solid-state, capstan drive unit with tone control, vertical or horizontal operation, 4-inch x 2 5/8-inch oval dynamic speaker, 3 1/4-inch reel. Mono. Powered by batteries or A/C current. Includes remote control mike, earphone. Weight 5 1/2 lbs.

Sharp
Model RD-504
 12 x 3 3/4 x 9 1/4 inches
\$54.95



Two-speed (3 3/4, 1 7/8 i.p.s.), solid-state capstan drive unit with mixed line recording, 'sound with sound,' VU meter, vertical or horizontal operation, fast forward, automatic shut-off when batteries unusable, 6 1/4-inch x 2 1/4-inch oval speaker, tone control, 5-inch reel. Powered by six "D" cells or A/C current. Includes remote control mike, earphone. Weight 8 lbs.

Sony
Model 222A
 11 5/8 x 4 5/8 x 11 7/8 inches
\$99.50



ServoControl motor is featured in this mono solid state recorder as well as its battery-AC operation. Has automatic recording control with defeat switch, built-in recharging circuit for use with optional rechargeable lifetime battery pack (\$14.95), VU meter, speaker monitor in record mode, tone control, five-inch reel capacity, stop-start dynamic mike. Signal-to-noise ratio 48 db. Weighs 8 lbs 13 ozs.

Sony
Model 910
 8 1/2 x 4 1/8 x 9-13/16
 inches
\$69.50



Solid-state two-speed (1 7/8, 3 3/4 ips) operates on four "D"-size batteries optional BP-8 rechargeable lifetime nickel cadmium battery pack or AC house current. Has Sonymatic recording control, dynamic remote controlled mike, record indicator meter, 3 1/4-inch reel capacity, dual track operation, automatic tape lifter, record interlock. Signal-to-noise ratio 45 db. Weighs 6 lbs, 2 ozs with batteries.

Sony
Model 860
\$149.50



Two track mono, five-inch reel capacity, runs at 1 7/8 and 3 3/4 ips, AC/DC operation, automatic level control, tone control, digital counter, complete with remote control mike. Operates on eight "D"-size batteries or house current.

Sony
Model 864
\$159.50



Five-inch reel capacity, AC/DC or battery operation, four-track mono, 1 7/8 and 3 3/4 ips speeds, record level/battery condition indicator, digital counter, automatic level control, automatic head lifters. Complete with remote control mike.

Tandberg
Model 11
 13 x 10 x 4 inches
\$449.50



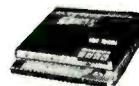
Half-track three-speed (7 1/2, 3 3/4, 1 7/8, ips) mono unit with electronic tape speed control, VU meter, automatic level indicator, seven-inch reel. Built-in speaker. Frequency response 40 to 16,000 c.p.s. ± 2 db at 7 1/2 ips; 60 to 9,000 Hz ± 2 db 3 3/4 ips. Signal-to-noise ratio 56 db at 7 1/2 ips; 0.3% at 3 3/4 ips. Powered by 10 1.5 volt batteries or A/C current (with adaptor). Weight seven lbs.

Tandberg
Model 11-1-P
 13 x 10 1/4 x 4 inches
\$699.00



Designed for professional sound-film synch and recording engineering. Has five heads, three speeds, automatic volume limiter, separate controls for mixing microphone and line inputs, climatized construction operating between 15 and 115 degrees F. Operates on 10 "D"-size batteries. Connects by cable to camera its power producing pilot tone (not heard on playback). Frequency response: 30 to 20,000, 30 to 13,000, 30 to 7,000 Hz at 7 1/2, 3 3/4, 1 7/8 ips, respectively. Weighs 9.5 lbs.

Telefunken
Magnetophon Model 300
 3 x 10 3/4 x 11 inches
\$199.95



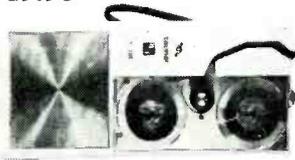
Transistorized portable with pause button, speaker switch, record level and battery power indicator, 3 x 4-inch speaker, external speaker output, 10 transistors. Powered by 5 D cells, special Telefunken rechargeable battery or (via special adaptor) house current or auto battery. Reel size up to 5 inches. Frequency response 40 to 14,000 c.p.s. 3 3/4 i.p.s. speed. Microphone not included. Weight 7 1/2 pounds.

**Telefunken
Magnetophon
Model 301
\$169.95**



Same as Model 300, but with four-track mono, push-buttons for track selection, plus 1 7/8 i.p.s. speed. Response 40 to 8,000 c.p.s.

**Telmar
Model T-100
"Pocketcorder"
7 5/8 x 3 3/8 x 1 7/8 inches
\$49.95**



Two-speed (7 1/2, 3 3/4 i.p.s.) capstan drive portable with push-button operation, fast forward and rewind, 13 transistors, two 4-inch x 2 1/2-inch speakers, index counter, record level/battery meter, 5-inch reel. Powered by flashlight batteries or A/C current. Frequency response 100 to 10,000 c.p.s. at 7 1/2 i.p.s.; 100 to 8,000 c.p.s. at 3 3/4 i.p.s. Wow and flutter 0.5%. Includes two dynamic mikes. Weight 13 lbs.

**Toshiba
Model GT611P
11 1/2 x 3 x 9 inches
\$79.50**



Mono five-inch reel unit operable off six D cells or house current via built-in power supply. Features piano key operation, automatic level control, record level/battery level meter, monitoring switch, tone control, 6 x 3-inch speaker. With remote mike and small accessories. Weighs 8.6 pounds.

**Uher
Model 4400 Mark 514C
11 x 9 x 3 1/2 inches
\$600.00**



Professional stereo battery or AC operated portable. Record and playback through component system or field recording by battery in mono or stereo. Features usual three speeds plus 1 1/8 ips giving 25 1/2 hours continuous play on a single reel. Same frequency responses as Model 4000L. Comes with battery, AC portable mono recorder, M514 mike, case. Weighs eight lbs.

**Uher
Model 5000
6 x 10 x 12 inches
\$300 (without mike)**



Pushbutton-operated monophonic two-track portable, three speeds (15/16, 1 7/8, 3 3/4 i.p.s.) automatic level control, remote control microphone (included) provides backspacing, automatic stop, provision for slide projector synchronizer, 4 x 6-inch speaker, digital counter, 6-inch reel capacity. Response 40 to 16,000 c.p.s. at top speed. Wow and flutter about 0.2%. Signal-to-noise ratio better than 50 db.

**Uher
Model 1000
10 1/2 x 8 1/2 x 3 3/4 inches
\$695**

Broadcast-professional type, 7 1/2 i.p.s. only, full-track monophonic, piano key controls, interruptible automatic photo electric level control, interruptible overload filter, test button for Pilotone level, battery condition test button, monitoring both straight and off the tape, stroboscopic speed control, built-in monitoring speaker, adjustable playback and record equalization (CCIR or NARTB), built-in sound synchronization for motion picture cameras (Pilotone design). Runs on five nickel cadmium cells, rechargeable battery pack, car batteries (6-24 V.) or AC power supply which may also be used as battery recharger. Wow and flutter less than .12 RMS. Response 20 to 20,000 c.p.s. Signal-to-noise ratio 54 db (NARTB) 52 db (CCIR). Reel size 5 inches.

**Uher
Model 4000L Mark 514C
10 1/2 x 8 1/2 x 3 1/4 inches
\$440**



Four-speed, solid-state (15/16, 1 7/8, 3 3/4, 7 1/2 i.p.s.) portable with volume and tone controls, modulation control, VU meter/battery checker, pause control, fast forward, digital counter, two heads, 5-inch reel. Frequency response 40 to 4,500 c.p.s. at 15/16 i.p.s.; 40 to 10,000 c.p.s. at 1 7/8 i.p.s.; 40 to 17,000 c.p.s. at 3 3/4 i.p.s.; 40 to 20,000 c.p.s. at 7 1/2 i.p.s. Signal-to-noise ratio 55 db. Wow and flutter .15% at 7 1/2 i.p.s. Includes remote control dynamic mike. Powered by rechargeable battery or five nickel-cadmium batteries or power unit and battery charger included. Comes with leather case. Weight 7 lbs., 8 oz.

**V-M
Model 781
4 1/2 x 12 x 10 1/8 inches
\$69.96**



Solid state two-speed mono battery or AC operated portable. Has pilot light, interlock against accidental erasing, sound controlled start-stop system, headphone jack, digit counter, recording level and battery strength meter, 6 1/4-inch speaker. Operates at 3 3/4 and 1 7/8 ips. Runs on six "D"-size batteries or AC house current. Frequency response at 3 3/4 ips 120 to 7,000 Hz. Signal-to-noise ratio 40 db. Weighs 10 lbs.

V-M
Model 782
 4½ x 12 x 10⅛ inches
\$89.95

Same as Model 781 except for the added features of rechargeable alkaline battery and automatic volume level regulation.

Wollensak
Model 3500
 11½ x 10¼ x 4 inches
\$89.95



AC/DC 5-inch portable with automatic level control, VU meter which is also battery condition indicator, digital counter, built-in speaker, piano key operation, complete with mike. Runs at 1½ and 3¾ i.p.s. Response 100 to 8,000 c.p.s. Weighs 8¾ pounds.

Cassette Tape Players

Arvin
Model 97C08
 8 x 13 x 14 inches
\$99.95



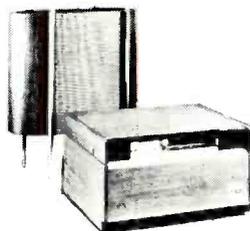
Four and eight-track compatible playback deck with preamps, capable of handling standard four-inch and extended-play six-inch and eight-inch loop cartridges.

Audiosphere
 (Livingston)
Dual Galaxy
 9 x 3¼ x 7 inches
\$129.95



Combination four- and eight-track auto player with 8 watts output, volume, balance, tone and channel selector controls. Frequency response 35 to 15,000 c.p.s.

Arvin
Model 97C18
\$119.95



Deluxe version of 97C08 in walnut wood cabinet.

Audiovox
Model C940
 6¼ x 7¾ x 2¾ inches
\$89.95



Eight-track auto player with volume, balance, tone, track switching and tuning controls. Panel over cartridge slot. Features a motor on-off defeat switch. Frequency response 10-10,000 Hz, signal-to-noise ratio 40 db, eight watts output. Speakers optional.

Audiovox
Model C875
 12 x 8 x 4½ inches
\$99.50



Eight-track home player/amplifier deck, requiring speaker systems to be operational. Has lighted channel indicators, balance, tone and volume controls, input jacks for phono or tuner, and 20 watts output. Response 100 to 3,000 c.p.s. Signal-noise ratio 35 db.

Arvin
Model 97C38
 14 x 8 x 13 inches
 (player only)
\$159.95



Table model compatible four and eight-track cartridge player system consisting of player and matching speaker systems in walnut wood-grain vinyl. Has tone, volume and balance controls. Price includes speaker systems. Amplifier/player alone is priced at \$139.95 (Model 97P38-A).

Audiovox
Model C-950
 8 x 8 x 3 inches
\$109.95



Eight-track auto player on-off, volume, tone, balance and track switching controls, anti-dust panel over cartridge slot. Frequency response 50 to 7,500 c.p.s. Signal-to-noise ratio better than 40 db, 10 watts output. Speakers optional.

Automatic Radio
Model SEL9606
 5½ x 7 x 3 inches
\$79.95



Eight-track (or four-track with "Gidget") auto player. Features automatic or manual cartridge switching. Dual amplifier provides eight watts of music power.

Automatic Radio
Model EMX6810
 2½ x 7½ x 7 inches
\$149.95



Stereo tape player with FM radio for the auto. Plays eight-track (or four-track with "Gidget") cartridges. Has volume, tone and balance controls, dual amplifier with eight watts of power output over a frequency range of 60 to 12,000 Hz.

Automatic Radio
Model SCE6804
\$99.95



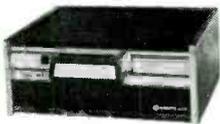
Auto player plays eight-track (or four-track with "Gidget") stereo cartridges, AM or FM radio pak tuner cartridges and FM stereo tuner cartridge. Comes with two high-fidelity surface mount speakers.

Automatic Radio
Model GES8111
\$149.95



Eight-track (or four-track with "Gidget") auto deck player with AM, FM or FM stereo radio. Has safety control dials inset on front panel and features four-way speaker balance control for left and right, front and back. Dual transistor stereo amplifiers with 10 watts of output over a frequency range of 50-15,000 Hz. Stereo speakers are optional.

Automatic Radio
Model HTC8102
\$89.95



Eight-track stereo-deck convertible playing eight-track stereo cartridges or any four-track cartridge with "Gidget." Features automatic conversion to AM/FM or FM stereo with the insertion of optional "Radio Pak Tuner Cartridges." Has built-in, dual transistor stereo pre-amplifiers with a variable 10 MV to .5 RMS output.

Automatic Radio
Model HGE6779



Home stereo eight-track player, available as a straight deck without speakers, or with speaker systems, the latter as Model HGK6780. Has volume tone and balance controls, and track selector. Response 50-15,000 c.p.s. Ten watts output. Accessories include plug-in FM or AM radio.

Auto-Sonic
Model ST300
\$79.95



Deluxe version of ST100 with indicator light.

Automatic Radio
Model HMX4000
\$299.00



Eight-track (or four-track with "Gidget") player plus AM, FM or FM stereo radio. Has one central sound system with output of 20 watts, pushbutton power switch, low-level listening switch, pushbutton channel selector, separate bass, treble and balance control, automatic frequency control for radio station lock-in. Input jacks for other players or a stereo turntable, separate inputs for headphones.

Auto-Sonic
Model ST400
\$99.95



All-chrome compatible auto player with manual and automatic track switching, tone, separation and volume controls. Available with FM radio at higher price.

Auto-Sonic
Model ST 408
\$119.95



All-chrome four- and eight-track compatible auto player with indicator light and automatic start on four-track.

Auto-Sonic
Model ST804
\$109.95



Compatible player in black case with chrome front, tone, separation and volume controls, 10 watts output. Also available with FM radio at higher price.

Auto-Sonic
Model ST120G
\$139.95



Portable home and auto four and eight-track compatible player completely self-contained with speakers and converter to play from car battery, battery pack, or house current. Tone, separation and loudness controls.

Auto-Sonic
Model ST 808
\$109.95



Deluxe eight-track auto player with indicator light and four watts output.

Borg-Warner
Deluxe 8
3 x 8 x 7½ inches
\$119.95



Eight-track auto player, three-watts per channel output, with volume, balance and tone controls. Complete with two 5-inch speakers in Cyclac hang-on housing. Response 70 to 10,000 c.p.s.

Borg-Warner
Model Mark II
\$89.95



Same as Deluxe 8 model except in different housing and without speakers.

Borg-Warner
Model Cart/able 8
\$99.95

Portable eight-track player with detachable wing speakers. Runs on house current. Has volume, tone and balance controls.

Capitol
Model HP 875
\$199.95



Eight-track self-contained home player with 20-watt amplifier, six controls, four speakers, stereo earphone jack, output jack, stereo tuner and phono input jacks, in walnut finished cabinet.

Capitol
Model CD885
10¼ x 10¼ x 5¼ inches
\$149.95



Eight-track home player deck with dustproof cartridge slot, fast forward with automatic cue to beginning of cartridge, automatic cartridge eject, illuminated program indicator, automatic system shutoff. Response 30 to 20,000 c.p.s.

Capitol
Model HP895
15 x 10½ x 5¼ inches
\$259.95



Eight-track player deck with 20 watt amplifier, various inputs, fast forward, cartridge ejector, illuminated program indicator, electronic track counter with automatic system shutoff, tone and volume controls. Response 10 to 30,000 c.p.s.

Capitol
Model CC890
\$259.95



Eight-track cartridge player/phonograph combination in walnut base with two matching speaker systems. Uses Garrard changer and features stereo headphone jack, 20 watts output, six controls, and auxiliary inputs. Response 20 to 20,000 c.p.s. Includes changer and dust cover.

Concord
CP250
9½ x 4 x 9¼ inches
Under \$100



Eight-track home player deck in teak housing. Individual program indicator lights and program selector.

Craig
Model 3104
7¼ x 3 x 9½ inches
\$99.95



Compatible auto player for both four and eight-track cartridges. Features fully automatic cartridge and track selection, six head positions for better track alignment, program indicator lamps, "E-Z-Ject" cartridge release button, jack for remote program change switch, volume, balance and tone controls, polished chrome cabinet. Wow and flutter less than 0.25 per cent rms. Output 8 watts. Response 70 to 10,000 c.p.s.

Craig
Model 3110
7 x 3½ x 8½ inches
\$49.95

Four-track auto player with volume, tone and balance controls, all-chrome finish, illuminated operation indicator. Wow and flutter less than 0.35 per cent rms, 8 watts output, frequency response 100 to 7,500 c.p.s.

Craig
Model 3116
 7 $\frac{3}{4}$ x 2 $\frac{7}{8}$ x 10 $\frac{1}{2}$ inches
 \$109.95



Four- and eight-track auto stereo player features new design and styling including recessed controls. Fully automatic cartridge and track selection, manual program changing by front panel button or by remote accessory switch wired to a special jack. Frequency response 70 to 10,000 Hz, signal-to-noise ratio 40 db. Audio output 22 watts. Weighs nine lbs.

Decca
Model DTP351
 \$79.95

Eight-track home player deck in walnut veneer. Has channel selector and indicator and external head adjustment.

Duo-Vox
DS 800



Eight-track auto player with 15 watts output power and frequency response of 60 to 10,000 c.p.s. Volume, track selector, tone and balance controls. Features front dust cover over cartridge insert slot. Optional remote control for track changing. Optional speakers in chrome housings.

Craig
Model 3117
 7 $\frac{3}{4}$ x 3 $\frac{3}{4}$ x 10 $\frac{1}{2}$ inches
 \$169.95



Four- and eight-track stereo auto player, with FM/stereo radio. Features automatic program switching for eight-track cartridges and for four-track when there is sensing foil strip at the program change point. Radio features include: automatic adjustment to either stereo or mono broadcast, automatic frequency control, automatic change-over to cartridge play when cartridge is inserted, multi-function bar for FM program or tape selection. Frequency response 70 to 10,000 Hz, signal-to-noise ratio 40 db, separation (tape) 35 db. Weight 9.5 pounds.

General Electric
Model M 8610
 18 x 4 $\frac{1}{2}$ x 8 $\frac{1}{2}$ inches
 \$154.95



Three-piece, self-contained, eight-track home ensemble, consisting of player and two speaker systems, each containing a 6-inch speaker. Has channel select, balance tone and loudness controls, plus dust guard over cartridge slot. In walnut finished hardwood cabinet.

General Electric
Model M 8600
 18 x 4 $\frac{1}{2}$ x 8 $\frac{1}{2}$ inches
 \$109.95



Eight-track home player deck in walnut finished hardwood cabinet. Has channel select and dust guard over cartridge slot.

Craig
Model 3119
 7 $\frac{3}{4}$ x 3 $\frac{3}{4}$ x 10 $\frac{1}{2}$ inches
 \$139.95



Same as Model 3117 but plays only eight-track cartridges.

JVC Nivico
Model 4220
 Main unit 3 $\frac{3}{4}$ x 9 $\frac{1}{2}$ x 12 inches
 Baffles 13 $\frac{3}{8}$ x 8 $\frac{7}{8}$ x 6 $\frac{1}{4}$ inches each



Solid state AM/FM stereo compact with eight-track stereo player. Includes a pair of matching speakers plus outputs for two external speaker baffles. Delivers 20 watts of power. Features repeat play of any one of four tapes in a cartridge again and again or runs through all four at a single playing. Main unit weighs 16.2 lbs. baffles 4.2 lbs each.

Craig
Model 3201
 9 x 4 $\frac{1}{2}$ x 9 $\frac{1}{4}$ inches
 \$69.95



Eight-track home player in walnut finished enclosure, cartridge dust cover, channel selector, illuminated channel indicators. Response 50 to 10,000 c.p.s. Signal-noise ratio better than 45 db.

Decca
Model DTP350
 \$129.95



Eight-track home cartridge ensemble consisting of player and two separate speaker systems in walnut veneer cabinets. Has tone, volume and balance controls. External head adjustment.

JVC Nivico
Model 6100
 9 x 17 $\frac{1}{2}$ x 13 $\frac{3}{4}$ inches



Automatic four-speed stereo turntable and stereo eight player. Turntable features JVC Nivico's four-pole outer rotor motor and a nine-inch platter. Statically balanced tonearm with stereo crystal cartridge and sapphire stylus. Changeover from records to tapes is automatic with the insertion of a cartridge. Wooden cabinet and acrylic dust cover. Weighs 21.5 lbs.

JVC Nivico
Model 6102
9½ x 17¼ x 13¾ inches



Stereo eight player with automatic four-speed stereo turntable. 11 inch platter for wow and flutter characteristics of 0.3%. Dynamically balanced tubular tonearm with moving magnetic cartridge and diamond stylus for stylus pressure from 3.5 to 5 grams. Cartridge player has a six-transistor preamplifier and wow and flutter characteristics of 0.3%. Automatic change-over with insertion of cartridge. Finished wood and molded acrylic dust cover. Weighs 23.4 lbs.

Lear Jet
Model A239
8 x 7½ x 3 inches
\$154.95

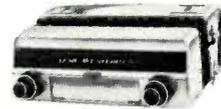


Eight-track stereo with solid state FM radio for the auto. Has fast forward control, precision pitch control, direct capstan drive inverted DC motor, zinc die cast case construction, FM stereo indicator light, FM radio tuning and stereo balance control. Power output of four watts per channel. Wow and flutter 0.3%. Weighs nine lbs. Stereo speakers optional.

JVC Nivico
Model 9800
5¾ x 18¾ x 9⅞ inches
Baffles 10¼ x 8¼ x 9⅝ inches each

Solid state AM/FM stereo with stereo eight player has eight watt power output. Features tape playing functions with full control and indication. Housed in finished selected woods. Has inputs for turntable, recorder and headphones. Main unit weighs 13.5 lbs, baffles 3.3 lbs. each.

Lear Jet
Model A209B
8 x 7½ x 3 inches
\$69.95



Eight-track, solid-state auto unit of die-cast case construction. Features endless automatic play, volume and tone controls, push-button program selector, stereo balance control. Has power output minimum of two watts per channel, wow and flutter 0.3%. Weighs nine lbs. Optional auto stereo speakers.

JVC Nivico
Model 9801
5 x 31½ x 9⅞ inches



Long and low AM/FM receiver with eight-track stereo player. Solid state circuitry offering 24 watts power output. Has bass, treble and balance controls, full tape control and indications by lights. Two-tone styling with wooden side panels. Inputs for accessory components. Weighs 20 lbs.

Lear Jet
Model A249
14½ x 9½ x 7½ inches
\$144.95



Portable auto arm-rest eight-track player plugs into cigarette lighter. Has storage for five cartridges plus other small items, fast forward control, capstan drive, pushbutton program selector, two built-in five-inch speakers plus output terminals for optional external speakers. Power output four watts per channel. Wow and flutter 0.3%. Weighs 16½ lbs.

Lear Jet
Model A119
6¼ x 9-3/16 x 2-15/16 inches
\$89.95



Auto stereo player for both eight-track and four-track cartridges. Has fully automatic operation for eight-track, "on" indicator light, solid state circuitry, pushbutton program selector, four track on-off control, separate volume and stereo balance control, power output four watts per channel. Wow and flutter 0.3%. Weighs 7.7 lbs. Stereo speakers optional.

Lear Jet
Model A269
8 x 7½ x 3 inches
\$124.95



Eight-track auto player featuring fast forward and pitch control, capstan drive, zinc die cast case construction. Has stereo balance control, pushbutton program selector, volume and tone controls. Four watts rms power output. Wow and flutter 0.3%. Weighs nine lbs.

Lear Jet
Model H329
Base 9 $\frac{7}{8}$ x 11 x 4 inches
Speakers (each) 11 x 5 x 12 inches
\$139.95

Eight-track cartridge player system featuring amplifier with 24-watt peak music power. Has automatic operation, program selector, indicator lights, solid state circuitry with inputs for phono or tuner, stereo balance control, wood cabinetry. Wow and flutter 0.3%. Weighs 23 $\frac{3}{4}$ lbs.

Lear Jet
Model P519
7 $\frac{1}{4}$ x 11 $\frac{3}{4}$ x 3 $\frac{1}{2}$ inches
\$49.95



Portable eight-track player operating on eight "D"-size batteries or plugs into cigarette lighter, is fully automatic and can be used with optional amplifier-speaker for stereo reproduction in combination with its own single built-in speaker. Has volume control, pushbutton program selector, lighted program indicator, carrying handle. Weighs 4 lbs.

Lear Jet
Model H349
5 $\frac{7}{8}$ x 18 x 11 inches
\$109.95



Eight-track player with built-in speakers featuring 24-watt peak music power amplifier. Cabinetry of component styled wood. Has push button program selector, program indicator lights. Wow and flutter 0.3%. Weighs 20 lbs.

Lear Jet
Model P529
10 $\frac{1}{2}$ x 5 $\frac{3}{8}$ x 7 $\frac{5}{8}$ inches
\$69.95



Portable stereo cartridge player operating on batteries, AC house current or connected to auto cigarette lighter. Has detachable second speaker, automatic operation, stereo balance control, program selector dial, tone control. Weighs eight lbs.

Lear Jet
Model H409
Player radio
6 $\frac{1}{4}$ x 19 $\frac{3}{4}$ x 10 $\frac{1}{2}$ inches
Speakers 12 $\frac{1}{2}$ x 7 $\frac{7}{8}$ x 8 inches each
\$239.95



Eight-track cartridge player plus AM, FM and FM stereo radio with matching speakers. A 24-watt music power amplifier, auxiliary inputs for stereo reproduction from any other source, and automatic frequency control are some of this system's features. Frequency response of 30-18,000 Hz, wow and flutter 0.3%. Player-radio weighs 16.5 lbs., speakers weigh 7 lb. 1 oz. each.

Lear Jet
Model P509
7 x 2 $\frac{1}{2}$ x 5 inches
\$29.95

Eight-track player designed for portable use. Operates on six "C"-size batteries. Is equipped with outputs for earphone or optional accessory stereo amplifier speaker. Has program selector dial and adjustable carrying strap. Weighs four lbs.

Lear Jet
Model H459
Amplifier 9 $\frac{3}{8}$ x 24 x 14 $\frac{1}{8}$ inches
Speakers 12 $\frac{5}{8}$ x 7 $\frac{7}{8}$ x 8 inches each
\$289.95



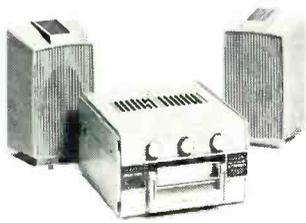
Stereo cartridge plus AM, FM and FM stereo radio, four-speed automatic record changer and matching speakers all enclosed in walnut grained cabinets—the record changer/player/radio unit having a hinged lid with see-through smoked plexiglass windows. Radio features FM automatic frequency control and stereo broadcast indicator. Frequency response 30 to 20,000 Hz. Power output of 24 watts. Amplifier weighs 28 lbs., speakers 7 lb. 1 oz. each.

Lear Jet
Model HSA940
6 $\frac{5}{8}$ x 10 $\frac{1}{4}$ x 3 $\frac{3}{4}$ inches
\$69.95



Eight-track stereo home deck with automatic operation, push-button program selector, program indicator lights. Styled in walnut-veneer cabinet. Wow and flutter 0.3%. Weighs six lbs.

Masterwork
Model M8503
 5¾ x 17 x 10 inches
 \$99.95



Solid-state stereo amplifier with 20 watt output featured in this eight-track cartridge portable. Has detachable speaker enclosures housing six-inch speakers. Stereo speaker separation up to 15 feet. Three controls: volume, balance and program selector. Cartridge storage space provided in speaker housings. Polystyrene cabinet.

Motorola
Model CP5C
 21½ x 13½ x 8 inches
 \$138.88

Portable eight-track home player in vinyl covered wood cabinet containing two speaker enclosures each with 5¼-inch and 3-inch speakers. Amplifier has 10 watts output.

CP7CW
 4 x 9¾ x 8 inches
 \$79.88

Eight-track home player deck with program selector and level control.

Masterwork
Model M8601
 41/8 x 11 5/8 x 11 1/4 inches



Solid-state eight-track stereo tape component system. Features stereo amplifier with 30 watt output plus pre-amp stage, frequency response 70-10,000 Hz, four-speaker system with two high excursion speakers compliantly matched to the amplifier in each walnut sealed enclosure. Input jacks for operation with record changer (optional Model 8652), tape deck or FM stereo tuner.

Muntz
Model C120
 8 x 3 1/4 x 8 1/2 inches



Four- and eight-track auto player equipped with four 5-inch round (model SK 4) or two 2½ by 10-inch oval (Model SK 2) speakers, program indicator lights, controls for loudness, contour, separation, track selection, reject, program selection. Frequency response 50 to 12,000 Hz, wow and flutter 2%. Weighs 8¾ lbs.

Masterwork
Model M8700
 Cabinet 17 inches wide x 3 1/2 inches high
 Speakers 17 1/4 x 3 5/8 x 11 1/2 inches



Stereo player with AM/FM/FM stereo radio and two speakers all housed in matching walnut cabinets. Equipped with six controls: tuning, volume (on-off), balance, bass, treble. Has two 6½-inch speakers and two 2-inch speakers. Jacks for external FM antenna, input phono, speaker output and auxiliary inputs. Frequency response of tape player 60 to 12,000 Hz.

Muntz
Model 55
 7 x 7 1/2 x 3 inches



Four- and eight-track auto player with power output of seven watts per channel. Has controls for tone, separation, volume, program selection, automatic track switching, four- or eight-track selection. Indicator lights show playing track. Equipped with four 5-inch round (Model SK 4) or two 2½ by 10 inch oval (Model SK 2) speakers. Frequency response of 50 to 10,000 Hz. Signal-to-noise ratio 55 db. Wow and flutter 0.3%. Weighs 6½ lbs.

Masterwork
Model M8002
 \$59.95



Eight-track home player deck with automatic program selector manual override, in walnut cabinet.

Muntz
Model HP5
 10 1/4 x 4 3/4 x 12 inches



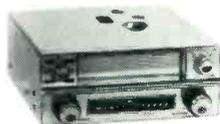
Four-track stereo home player for use with existing stereo systems. Has its own solid state amplifiers for use with any component type stereo speaker system. Frequency response 50 to 15,000 Hz, signal-to-noise ratio 45 db, wow and flutter 0.2%, power output 12 watts per channel. Weighs 16½ lbs.

Muntz
Model M-12
 7 $\frac{3}{4}$ x 8 $\frac{1}{4}$ x 4 inches
 \$99.95



Compatible four- and eight-track auto player with 16 watts output. Frequency response 50 to 12,000 c.p.s. Signal-to-noise ratio 45 db. Wow and flutter 2 per cent. Has loudness, 4/8 selector, contour, program selector, reject and separation controls.

Muntz
Model M 6069
 7 x 7 x 3 inches
 \$99.95



Automatic four- and eight-track stereo auto player features remote control automatic program changer and power output of 15 watts per channel. Has controls for loudness, contour, reject and separation. Equipped with track selector blue indicator lights for four separate programs, four 5-inch round (Model SK 4) or two 2 $\frac{1}{2}$ by 10-inch oval speakers (Model SK 2). Frequency response 50 to 12,000 Hz. Wow and flutter 2%. Weighs 7 $\frac{3}{4}$ lbs.

Muntz
Model M-30
 6 $\frac{1}{2}$ x 5 $\frac{5}{8}$ x 2 $\frac{3}{4}$ inches
 \$39.95



Four-track auto player, 8 watts output, wow and flutter 0.30, frequency response 50 to 10,000 c.p.s. Signal-to-noise ratio 48 db minimum.

Muntz
Model 1200
 26 x 9 $\frac{1}{2}$ x 10 $\frac{1}{8}$ inches



Table/console compatible four-eight-track home player with optional console base. Has volume, tone and balance controls, reject lever. Speakers built-in. Response 50 to 15,000 c.p.s. Signal-noise ratio 45 db. Output 25 watts music power.

Muntz
Model M45
 7 x 2 $\frac{1}{2}$ x 6 $\frac{1}{8}$ inches
 \$59.95



Four-track auto player with tone and volume controls, reject button, track selector, and channel separation control. Six watts per channel output. Response 50 to 12,000 c.p.s.

Muntz
Model HW 12
 14 $\frac{1}{2}$ x 4 $\frac{1}{2}$ x 10 inches
 \$119.95



Compatible four and eight-track home player deck with built-in amplifier, requiring only speakers to be operative. Has volume, tone and separation controls, plus track selectors and indicators. Response 50 to 15,000 c.p.s. Signal-noise ratio 45 db.

Muntz
Model C-50
 \$59.95



Four-track auto player, with selector, loudness, separation and reject controls. Response 50 to 12,000 c.p.s.

Muntz
Model C100
 7 $\frac{5}{8}$ x 6 $\frac{5}{8}$ x 3 $\frac{1}{4}$ inches
 \$69.95



Four-track auto player in chrome housing. Has loudness, tone, track selector and separation controls, and cartridge ejector. Response 50 to 12,000 c.p.s. Signal-noise ratio 46 db. Output 10 watts per channel. Choice of speakers.

Muntz
Model M 3569
 6 $\frac{1}{2}$ x 6 $\frac{1}{4}$ x 3 inches
 \$49.95



Car stereo for four-track cartridges. Dial controls are featured for loudness, tone and separation. Separate flip switch for program selection. Has four 5-inch round (Model SK 4) or two 2 $\frac{1}{2}$ -by 10-inch oval (Model SK 2) speakers. Solid state circuitry with 50 to 10,000 Hz frequency response, signal-to-noise ratio 55 db, output power is six watts per channel. Weighs five lbs.

Muntz
Model AR500
 10 $\frac{1}{2}$ x 5 x 12 inches
 \$199.95



Four-track home cartridge recorder/player deck with amplifiers, requiring only speaker systems for operation. Features two VU meters, separation, tone and volume controls, plus two mode switches, and has inputs for phono and microphones. Response 50 to 15,000 c.p.s. Signal-noise ratio 45 db.

Muntz
Model "Porta-Four"
 6¼ x 11 x 3½ inches
 \$29.95



Vertical portable battery-operated four-track mono cartridge player with tone and volume controls, plus track selector. Uses 3 x 5-inch speaker. Response 150 to 6,000 c.p.s. Weighs under five pounds.

Panasonic
Model RS810S
 \$149.95



Eight-track system consisting of 16-watt player and two external speaker systems. Features include push-button channel selector with lighted indicators; balance, tone and volume controls, and headphone jack on front panel.

Olympic
Model TP9
 \$99.95



Same as Model TP10 but 20 watts output.

Panasonic
RS800
 \$89.95



Eight-track home player deck with program selector and lighted indicators.

Olympic
Model TP10
 17¾ x 12¼ x 7 inches
 \$139.95



Eight-track stereo portable consisting of 40-watt player with detachable speaker systems. Has tone, balance and volume controls, lighted channel indicator, storage area for cartridges. Runs on AC current.

Panasonic
Model RQ 210S
 3-¾ x 6-7/16 x 1-7/8 inches
 \$125

Portable with electronic motor operating on four "AA" batteries. Cartridge pops-up for changing cartridge, VU battery level meter, lever operation, 2½-inch dynamic speaker, 70% integrated circuitry, remote pencil mike and stand.

Orrtronic
Model Automate 8
 7 x 8 x 3 inches
 \$109.95



Eight-track auto player with tone, volume and balance controls, illuminated channel indicators, and dust guard panel over cartridge slot. Response 50 to 10,000 c.p.s. This unit is also sold under the Sears Roebuck label.

Panasonic
Model CX 777SU
 \$79.99



Eight-track transistorized auto player has provisions for automatic channel changer, built-in manual changer, dual channel amplifier and a variable tone control. Converts to radio with optional FM stereo or AM radio packs.

Orrtronic
Eight Track Stereo
 12 x 4½ x 7 inches



Eight-track home player in wood case with walnut-vinyl finish. Has dust-guard cartridge door, illuminated track indicators, track selector. Response 50 to 10,000 c.p.s. Signal-noise ratio 45 db.

Panasonic
Model RE7070
 18½ x 6½ x 11¼ inches
 \$249.95



Eight-track stereo tape player combined with AM/FM stereo radio and separate speaker systems. Features include slide rule tuning, lighted band selector, separate tone, volume and balance controls, AFC on FM, headphone panel jack, covered cartridge slot.

Panasonic
Model CX 807SU
 \$99.99



Eight-track auto player with automatic channel changer, dual channel amplifier, variable tone control.

Panasonic
Model CX 888SU
\$114.99



Auto/home stereo. Removable from auto by a turn of the key. Slips into walnut cabinet. Comes with lock-tight car bracket and home modular cabinet. Optional accessories include additional speakers and either an FM stereo or AM radio pack.

RCA
Model YLD42
7 1/2 x 23 x 10 inches
\$99.95



Eight-track stereo player with built-in solid state stereo amplifier and two 5-inch speakers. May also be played through external amplifier and speaker system. Automatic start, stop and track selection or manual track selection. Controls include loudness, tone and stereo balance. Has lighted track indicators. Finished in walnut veneers and hardwoods.

Panasonic
Model RS 802US
\$59.95



Eight-track solid-state stereo deck featuring pushbutton program selector and four lighted channel indicators. Housed in walnut grain modular cabinet.

Roberts
Model 778X
\$429.95

See details under portable reel recorders. This model contains an eight-track recorder/playback unit.

Philco
Model 8WA/CTP
6 x 17 1/4 x 10 1/2 inches
\$99.95

Eight-track home tape player deck in pecan cabinet finished to match walnut furniture, with four-cartridge storage area, on-off indicator light, and automatic channel selector with manual override.

Sony
Model TC-8
\$119.50



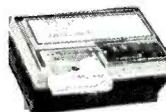
Eight-track stereo cartridge recorder/player deck for use in hi-fi system.

RCA
Model MLC20
3 5/8 x 6 3/4 x 9 3/4 inches
\$69.95



Eight-track modular deck unit has automatic track change, track selector bar, track indicator lights. Housed in cabinet of walnut veneer and selected hardwood.

Sylvania
Model TP8
10 x 7 x 4 1/2 inches
\$99.95



Eight-track table model deck, automatic shutoff, three push-button operation, channel lights, silent channel changing, unlocking mechanism to keep cartridge from contact with idler wheel when play is ended.

RCA
Model YLD30
13 7/8 x 10 1/8 x 6 1/2 inches
\$89.95



Eight-track stereo portable player with two 6-inch oval speakers in separate enclosures. Has separate volume controls, continuous tone control, automatic or manual channel selection with track indicator.

Telmar
Model ST80G
\$119.95



Eight-track home player with own amplifier, walnut and gold.

Telmar
Model ST80D
\$99.95



Eight-track home tape deck in walnut and gold.

Telmar
Model ST2000WX
\$219.95

Eight-track home cartridge player with FM/FM stereo tuner, 10 watts output per channel, with two high compliance bookshelf speaker systems in walnut housings.

Tenna
Model TC-48-T
2 $\frac{7}{8}$ x 7 $\frac{7}{8}$ x 8 inches
\$129.95



Combination four- and eight-track auto cartridge player with volume, selector, balance and tone controls, and dust-proof door over cartridge slot. Has fine-tuning control to eliminate crosstalk.

Tenna
Model TC48TFM
3 x 8 x 8 inches
\$179.95



Essentially the same as Model TC48T but with addition of FM radio. Comes with choice of two or four speakers.

Tenna
Model TC78FT
5 x 3 x 7 inches
\$69.95



Miniature eight-track auto player for use in glove compartment or where space is at a premium. Has tone, volume and balance controls, plus selector and fine tuning to reduce crosstalk. Complete with two ceramic speakers.

Toshiba
Model KT-80
4 $\frac{5}{8}$ x 12 $\frac{1}{2}$ x 8 inches
\$69.50



Similar in most respects to Model KT-81 but without amplifiers. Plugs into any stereo system.

Toshiba
Model KT-81
4 $\frac{5}{8}$ x 16 $\frac{1}{2}$ x 8 inches
\$119.50



Eight-track solid-state stereo player housed in walnut veneer cabinet with full control program selection, balance control, illuminated program indicator, 10 watts per channel output, input and output jacks for tuner/record player. Frequency response 50 to 15,000 Hz, signal-to-noise ratio 40 db. Weighs 15 lbs.

Toshiba
Model CT6
13 $\frac{1}{8}$ x 4 $\frac{1}{8}$ x 8 $\frac{3}{8}$ inches
\$69.50



Eight-track home player deck in walnut cabinet with chrome/ebony control panel, program selector and indicator. Response 50 to 15,000 c.p.s.

Toshiba
Model CT7
14 $\frac{3}{8}$ x 4 $\frac{3}{8}$ x 8 $\frac{3}{8}$ inches
\$119.50



Eight-track home player with self-contained 20-watt amplifier, illuminated program selector, balance, volume and tone controls. Response 50 to 15,000 c.p.s. Requires separate speaker systems to be operative.

Viking
Model 811
\$99.95



Eight-track home player deck in walnut case with preamp section, covered cartridge slot, push-button selector, and numerical indicator. Response 40 to 15,000 c.p.s. Signal-to-noise ratio 50 db peak. Wow and flutter 0.3 per cent rms.

Viking
Model 811W
\$149.95



Eight-track home player deck in walnut case with two satellite speaker systems each containing a 5 $\frac{1}{4}$ -inch speaker. Has tone and volume controls, push-button and automatic track selection, numerical track indicator, covered cartridge slot. Ten-watt output. Response, wow and flutter and signal-noise ratio same as Model 811.

Viking
Model 811P
\$149.95



Same as Model 811W but in two-tone vinyl portable cases.

Zenith
Model Y635W
5 x 13 $\frac{1}{4}$ x 7 $\frac{1}{2}$ inches
\$79.95



Eight-track home player deck with storage space for three cartridges. In walnut cabinet.

Cassette Tape Players

Admiral
Model ACTR 310
\$49.95



Six-transistors, remote control microphone and stand, recording level and battery condition meters, earphone jack, in black cabinet. Complete with leatherette carrying case, batteries, demo tape and one blank cartridge.

Aiwa
Model TP 726
3-5/8 x 6 x 1-9/16
inches
\$119.95

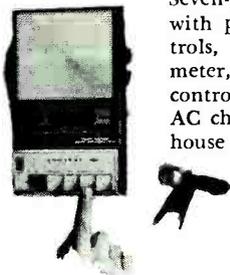


Miniature dual track mono recorder with IC circuitry, automatic volume control, forward, stop, fast forward, rewind, play-back and record controls, transistorized electronic governor motor. Operates on two alkaline batteries. Comes with dynamic microphone.

Admiral
CTR400
\$59.95

Essentially same as CTR410 but with carrying strap, and less charger unit.

Admiral
CTR410
\$69.95



Seven-transistor battery portable with push-button function controls, three-inch speaker, VU meter, complete with remote control mike, carrying case, and AC charger for using the set on house current.

Aiwa
Model TP728
10 3/4 x 6 x 3 inches
\$79.95



Vertical-styled portable mono cassette recorder with pushbutton controls, cassette ejector, automatic level control, AC/DC operation. Response not given.

Aiwa
TP 707PJ
8 x 2 1/4 x 5 1/4 inches
\$69.95



Features push-button controls, remote control microphone, dual purpose VU meter. Complete with mike, cartridge, and batteries.

Aiwa
Model TP 736
5 x 8 1/4 x 2 1/2 inches
\$44.95



Mono cassette recorder with dual track capstan drive, single selector lever for forward, stop, rewind and fast forward, automatic volume control, 2 1/2-inch speaker, input and output jacks. Powered by four "C"-cell batteries. Optional AC convertor. Microphone with on/off switch included.

Aiwa
Model TP718
5 1/2 x 3 x 8 3/8 inches
\$69.95



Mono cassette auto player-only with pushbutton mode controls, volume and tone controls. Plays on own speaker, or through auto speaker.

Aiwa
Model TP1004
 12¼ x 13 x 3½ inches
 \$139.95



Stereo self-contained portable with detachable wing speaker systems, 3 watts output, response 60 to 10,000 c.p.s., 14 transistors, pushbutton controls, full complement of inputs and outputs, remote control microphones, two VU meters, operation on four "D" batteries or built-in a.c. adapter. Price includes two microphones.

Aiwa
Model TP1009
 11 x 10 x 3¼ inches
 \$109.95



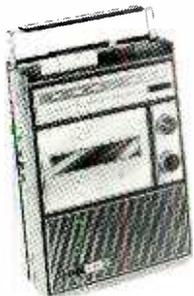
Stereo cassette table model deck in walnut case. Has pushbutton controls, two VU meters, digital counter, cassette ejector, and two volume knobs. Response 50 to 10,000 c.p.s.

Aiwa
Model TPR 101
 11¼ x 3½ x 9 inches
 \$109.95



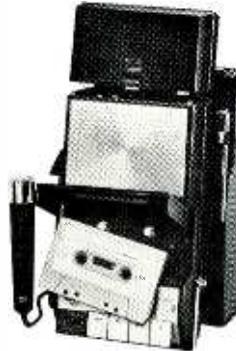
Mono recorder with AM/FM and Marine band radio. Records directly from radio to cassette with pushbutton controls. Has pop-up system, VU meter, tone control, dynamic cardioid microphone. Operates on four "D"-cell batteries or built-in AC.

Aiwa
Model TPR 104
 10¼ x 7½ x 3¼ inches
 \$89.95



Mono dual-track cassette recorder with FM radio, recording directly from FM to cassette. Has three-position monitor level switch, pushbutton controls, 3¾-inch speaker, FM antenna. Operates on four "C"-cell batteries and comes with microphone.

Allied
Model 1100
 12 x 6 x 4 inches
 \$59.95



Mono recorder operating on five "C"-batteries or from snap-on AC adapter. Has pushbuttons for fast forward and reverse, record level/battery condition meter, 3½-inch speaker, extension speaker jack, remote stop-start dynamic mike. Weighs seven lbs.

Allied
Model 1150
 9¾ x 6 x 2⅝ inches
 \$89.95



Solid-state recorder with keyboard controls, automatic level and tone controls, monitor switch, remote start and stop microphone. Has frequency response of 20 to 11,000 Hz. Operates on six "C" batteries or 120 VAC. Weighs five lbs.

American Gelo
Model G 19 112
 4½ x 8 x 2¼ inches



Player-recorder with pushbutton operation, VU meter, built-in amplifier. Comes with dynamic remote control mike. Signal-to-noise ratio better than 45 db. Weighs two lbs.

Ampex
Model Micro 1
 6 x 2½ x 10 inches
 \$29.88



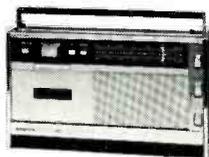
Player with single level control, fast forward, solid state, capstan drive, one year warranty. Powered by six "C"-cell batteries.

Ampex
Model Micro 5
 8¾ x 5¾ x 2¾ inches
 \$54.90



Stereo cassette playback deck with compact walnut cabinet, solid state electronics, output line for connection to any stereo amplifier. Weighs 2.6 lbs.

Ampex
Model Micro 30
 12 x 3 x 7 inches
 \$129



Cassette player/recorder featuring FM/AM radio, automatic volume control, solid state electronics. Operates on battery or AC. Microphone and line inputs. Output for external speaker. Weighs 4¾ lbs.

Ampex
Model Micro 12
 4¾ x 2⅞ x 7¾ inches
 \$59.95



Solid state player/recorder featuring carrying case with built-in speaker, record level VU meter, dynamic microphone. Powered by five "C"-size batteries. Inputs for microphone and line. Output for external speaker. Weighs four lbs with batteries.

Ampex
Model Micro 50
 14½ x 8¾ x 3½ inches
 \$139.95



Walnut encased stereo deck with seven piano keys, digital counter, VU meter, complete with two mikes.

Ampex
Model Micro 20
 12½ x 8 x 2¾ inches
 \$99.95



AC/DC mono portable in tailored carrying case with remote control mike included. Has record level meter, built-in speaker, external speaker outlet, tone control. Can be used as a tape deck in a system. Weighs six pounds

Ampex
Model Micro 85
 14¾ x 8¾ x 3½ inches
 \$199.95



Walnut encased stereo system including recorder and two matching speaker systems (measuring 14½ x 7¼ x 9 inches) complete with two mikes. Uses seven piano key controls, plus volume, balance, tone and record level knobs. Has VU meter and digital counter. Speaker systems each contain a 6 x 9-inch dual-cone speaker.

Ampex
Model Micro 22
 10 x 3-1/16 x 12¾ inches
 \$89.90



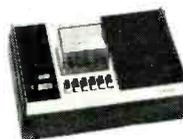
Solid state player/recorder featuring case-speaker with storage space for cassette tapes and accessories, record level VU meter, remote control mike, telephone pickup. Operates on five "C" batteries or 110 V with AC adaptor. Weighs five lbs.

Ampex
Model Micro 88
 16 x 7¾ x 15-5/16 inches
 (including attached speakers)
 \$199.00



Portable stereo tape player/recorder, featuring 20-watt power, record level VU meter, two slide-on speaker systems, two matched dynamic mikes. Has inputs for microphones and line, outputs for line and external speakers. Weighs 21 lbs.

Ampex
Model Micro 90
 15¼ x 9¼ x 4-¾ inches
 \$129



Stereo cassette tape changer playing up to six cassettes automatically. Walnut case. Weighs 11 lbs.

Ampex
Model Micro 95
Speakers: 14½ x 7¼ x 9 inches each
Changer: 15¼ x 9¼ x 4¾ inches
\$269.



Stereo tape changer, automatically playing or recording six cassette tapes at a time. Has record level VU meter, two matched speakers, two dynamic microphones, inputs for microphone and line, outputs for line and external speakers. Changer weighs 14½ lbs, speakers 8½ lbs each.

Bell & Howell
Model 292
10 x 6 x 2½ inches
\$29.95



Powered by six "C"-size batteries, this two-track player has a frequency response of 150 to 7,000 Hz and a signal-to-noise ratio of 45 db. Has earphone jack. Weighs 2.5 lbs.

Arvin
28L09
10 x 7 x 2½ inches
\$69.95



Four-piano-key operation operation on six batteries, or house current, seven transistor circuit, combination level meter and battery indicator, 2 x 3-inch speaker. Includes remote control mike.

Bell & Howell
Model 295
10 x 7½ x 2½ inches
\$99.95



Mono player/recorder is powered by six "C"-size batteries or AC house current. Has push-button controls for play, record, fast forward and rewind, cassette eject and pause. Separate volume and tone controls. Comes with omnidirectional mike and fitted carrying case with AC power cord. Frequency response 100 to 9,000 Hz. Weighs with batteries 5½ lbs.

Automatic Radio
Model PCP 8402



Portable recorder/player with automatic level control; VU meter; battery voltage indicator; tone and volume controls; push-button selectors for stop, rewind, fast forward, play and pause; digital counter; eject button. Operates on five "D"-size batteries or AC/DC current. Comes with remote control mike with stand.

Bell & Howell
Model 298
7 x ¾ x 12⅛ inches
\$129.95



Portable player/recorder with AM/FM radio. Operates on batteries or AC house current. Includes ferrite rod antenna for AM, telescopic antenna for FM, four-inch speaker, automatic changeover switch, monitoring possibility. Weighs without batteries 4¾ lbs.

Automatic Radio
Model CAH 2000



Stereo recorder/player. Has automatic signal level control, speaker monitor, two illuminated VU meters, automatic shut-off, keyboard type push-button selector for stop, rewind, fast forward, play, record, and pause. Comes with matching speakers and two dynamic mikes with stands.

Bell & Howell
Model 322
8 x 4½ x 2 ¼ inches
\$59.95



Four-track stereo player deck in walnut cabinet with smoked plastic dust cover plays through any stereo system. Frequency response 63 to 8,000 Hz within eight db. Signal-to-noise ratio 42 db. Weighs 2.6 lbs.

Automatic Radio
Model CRS 9440
7 x 6⅝ x 2¾ inches



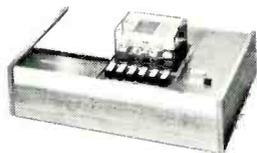
Stereo auto player has safety feature thumbwheel-type volume, balance and tone controls. Power output of 8.4 watts. Plays standard mono or stereo cassettes.

Bell & Howell
Model 326
13½ x 8¼ x 3½ inches
\$139.95



Stereo four-track deck has record and playback preamps. Features pushbutton control, record meter, pause control, digit counter. Styled in walnut with a smoked plastic dust cover. Frequency response 63 to 8,000 Hz within eight db. Has two omnidirectional mikes. Weighs seven lbs.

Bell & Howell
Model 332
 15 x 9 $\frac{1}{4}$ x 4 $\frac{1}{4}$ inches
 \$129.95



Four-track stereo play-changer deck in walnut base with smoked plastic dust cover. Includes two omnidirectional mikes and pre-amplifier.

Blaupunkt
Model 100
 \$110.95

Battery (flashlight or rechargeable) Auto/AC operated cassette player/recorder features versatile operation plus built-in speaker, battery meter, push-button controls. Comes with remote control mike.

Bell & Howell
Model 337
 13 $\frac{1}{2}$ x 10 x 6 $\frac{1}{2}$ inches
 \$269.95



Stereo recorder/player carries up to six cassettes at a time in Autoload changer. Frequency response 63 to 8,000 Hz within eight db. Styled in walnut with plastic dust cover.

Channel Master
Model 6300
 \$79.95

Seven-transistor battery portable mono, with dual purpose meter, 2 $\frac{3}{4}$ -inch speaker, four piano key mode controls, optional adapter/charger. Weighs 2 $\frac{3}{4}$ pounds.

Channel Master
Model 6301
 9 x 5 x 2 $\frac{1}{2}$ inches
 \$32.95



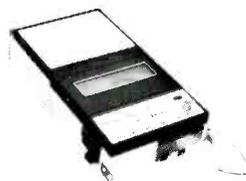
Portable cassette player. Operates on five "C"-size batteries or optional AC adapter-charger (Model 6484). Has 2 $\frac{1}{2}$ -inch speaker, capstan drive, built-in motor speed regulator, play-stop switch and volume control. Weighs 2 lbs 6 oz.

Bell & Howell
Model 450
 \$99.95



"Filmosound 8" battery-operated tape recorder designed for use both with Bell & Howell's "Filmosound 8" system and independently as a recorder and player. For sound home movies it attaches to camera Model 436 (\$129.95) or 442 (\$159.95) by a single cord providing lip synchronous sound reproduction. Takes standard cassette cartridges. Has automatic/manual volume control audio level meter and battery checker, pushbutton operation, extension speaker outlet. For movie playback attaches to projector Model 458 (\$189.95). Frequency response 90 to 9,000 Hz at ± 3 db. Comes with protective carrying case with shoulder strap, tape illuminator light, mike with on-off control. Accepts accessory A.C. adapter.

Channel Master
Model 6303
 10 $\frac{1}{4}$ x 3 $\frac{1}{2}$ x 10 $\frac{1}{4}$ inches
 \$49.95

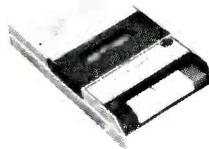


Portable recorder-player with recording level indicator, 2 $\frac{3}{8}$ -inch dynamic speaker, built-in motor speed regulator, remote control dynamic microphone with 500 ohm impedance. Operates on four "C"-size batteries or optional AC adapter-charger (Model 6484). Weighs 2 lbs 10 ozs with batteries. Foot switch optional.

Benjamin
Model 1050
 \$639

AM/FM stereo compact 85-watt radio-phono with detachable cassette recorder deck module which slips under the set to make it an integrated unit, plus a pair of compact EMI speaker systems. Also available in a 50-watt version as Model 1030, at \$539.

Channel Master
Model 6305
 9 $\frac{1}{4}$ x 5 x 2 $\frac{1}{2}$ inches
 \$59.95



Recorder/player operating on five "C"-size batteries or optional AC adapter-charger (Model 6352). Features pushbutton controls, 2 $\frac{1}{2}$ -inch dynamic speaker, built-in motor speed regulator, combination recording level and battery condition meter. Weighs 3 lbs 2 oz with batteries. Optional foot switch available.

**Channel Master
Model 6309
\$89.95**



Portable recorder operating on five "D" batteries or built-in AC. Features keyboard controls, automatic cassette ejection, switchable automatic level control and a monitor/personal amplifier function. Has storage compartment for four cassettes and four-inch dynamic speaker.

**Concord
Model F 95
\$100**



Portable recorder/player/AM radio featuring off-the-air recording by the push of a button. Has automatic record level control, ferrite antenna for the superheterodyne AM radio, acoustically matched speaker, cassette ejector. Operates on batteries and house current. Weighs five lbs.

**Channel Master
Model 6320
\$199.95**



Stereo component styled recorder. Has pushbutton operation, digital tape counter, single action cassette ejector, two recording level meters, two dynamic microphones, separate volume, tone and pause controls.

**Concord
Model F 50
8 3/4 x 4 x 9 inches
\$60**



Portable recorder/player featuring "Computer" design housing five-inch speaker. Has automatic battery disconnect on AC, automatic record level control, monitor provision through earphone, black screen dust cover and cassette ejector. Operates on six "C"-size batteries or AC house current. Comes with dynamic remote control microphone and carrying case with shoulder strap. Weighs 4 1/2 lbs.

**Concertone
Model 200S
\$179.95**



Stereo cassette table model ensemble consisting of player and two matching speaker systems. Has piano key mode controls, two VU meters, tone, volume, record level and balance controls.

**Concord
Model F 98
12 x 9 x 4 1/2 inches
\$120**



Recorder/player operating on six "C"-size batteries or AC house current with automatic battery disconnect on AC. Has VU recording level meter, tone control, cassette ejector, digital tape counter, all push-button operation, monitoring while recording, internal storage for two tape cassettes. Comes with dynamic remote control mike and has separate microphone input for conferenc recording. Records and plays up to 1 1/2 hours on single tape cassette. Weighs eight lbs.

**Concord
Model HES-1
Each unit measures
7 3/8 x 9 1/2 x 4 5/8 inches
\$270**



Cassette home entertainment center consisting of AM/FM/FM stereo receiver, F-105 cassette deck and two speaker systems. Also available without F-105 deck for under \$140. Receiver features AFC, stereo balance, bass and treble controls, stereo indicator light. Receiver cabinet and speakers in teak. Response 40 to 18,000 Hz. Power output 10 watts.

Concord
Model F105
 9 $\frac{5}{8}$ x 2 $\frac{3}{4}$ x 8 $\frac{3}{8}$ inches
 Under \$140



Stereo cassette deck in teak housing with black-glass lid. Uses two VU meters with two level controls.

Crowncorder
Model CTR9450S
 9 $\frac{1}{2}$ x 6 $\frac{7}{8}$ x 2 $\frac{5}{8}$ inches
 \$69.95



Light-weight compact recorder operating on built-in AC or four "C"-size batteries. Has built-in 2- by 4-inch oval speaker (power output 8 mW), piano key pushbuttons, volume level/battery condition indicator, remote control mike. Frequency response 100 to 8,500 Hz. Weighs 4.3 lbs.

Concord
Model F400
 12 $\frac{3}{8}$ x 9 $\frac{3}{4}$ x 3 $\frac{3}{4}$ inches
 \$180



Portable stereo recorder/player operating on batteries and AC house current with automatic battery disconnect on AC. Contains built-in stereo amplifiers and matched stereo speaker system. Can be operated as a tape deck recorder. Features automatic record level control, separate volume and tone controls for each channel, two VU meters, push-button tape transport mechanism, ejector, digital tape counter, stereo headphone output and outputs for optional matching extension speakers. Weighs 11 lbs.

Crowncorder
Model CRC9100F
 2 $\frac{1}{2}$ x 9 $\frac{1}{2}$ x 8 $\frac{1}{2}$ inches
 \$89.95



Twelve-transistor AM/FM radio/cassette recorder with telescoping antenna, slide rule tuning dial, push-button operation, tone control, VU meter. Runs on four flashlight batteries or AC via optional adapter. Response 100 to 10,000 Hz. Comes with remote control mike. Weighs five pounds.

Crowncorder
Model CTR9650S
 4 x 5-7/16 x 11 $\frac{1}{8}$ inches
 \$119.95



AC-battery operated compact cassette recorder features operation even with its attaché case closed, automatic tape repeater, pushbutton controls, AC bias recording built-in cassette and mike storage compartments. Has digit counter, record level and battery indicator. Frequency response 100 to 10,000 Hz. Operates on four "D"-size batteries or AC house current. Comes with dynamic mike. Weighs 9.3 lbs.

Craig
Model 2602
 5 $\frac{1}{2}$ x 2 $\frac{3}{4}$ x 9 $\frac{5}{8}$ inches
 \$69.95



Features automatic level control, cassette eject button, piano key controls, remote control microphone, battery condition indicator and 3 $\frac{1}{2}$ -inch speaker. Comes with mike, earphone, carrying case and one cassette. Weighs 3.9 pounds with batteries.

Crowncorder
Model CSC9350M
 12 $\frac{3}{8}$ x 4 x 17 $\frac{1}{2}$ inches
 \$189.95



AM/FM/FM stereo radio/cassette recorder combination using 23 transistors, separate speaker systems, and operating on four D cells or house current. Features two VU meters, slide rule tuning, tone, AFC controls, five piano key mode controls. Comes with two mikes which are stored in the speakers. Weighs 11 pounds. Response 100 to 10,000 c.p.s.

Crowncorder
Model CTR9000
 2 $\frac{3}{8}$ x 4 $\frac{3}{4}$ x 8 $\frac{1}{2}$ inches
 \$59.95

Seven-transistor mono battery-operated portable operable on AC with adapter. Features push-button mode controls, dual purpose meter, earphone jack, complete with remote control mike. Response 100 to 8,500 Hz. Weighs three pounds.

Crowncorder
Model CSC1000
 7 x 7 x 3 inches
 \$99.95



Auto player featuring front loading, pull-down tab mode controls, eject position, locking dashboard bracket, volume, balance and tone controls, five watts per channel output.

**Crowncorder
Model SHC51-500
\$299.95**

Music and tape center with optional speakers includes four-track stereo cassette recorder with pushbutton operation, digit counter, VU meters, balance control, separate controls for bass and treble, PA facilities, two dynamic mikes. Features all-silicon solid state amplifying circuits with an output of 30-watts and frequency response of 30 to 20,000 Hz. Combines with AM-FM stereo component tuner featuring flywheel tuning control system. Speakers optional extra. Combined weight 29 lbs.

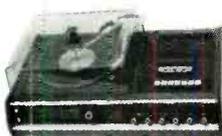


**General Electric
Model M8300
8 7/8 x 4 7/8 x 2 3/8 inches
\$79.95**



Single-speed (17 1/8 i.p.s.) capstan drive, mono portable cartridge recorder with push-button operation, fast forward and rewind. VU meter/battery checker, 2 3/4-inch speaker, two heads. Powered by five "C" cells or optional A/C converter. Includes dynamic remote control mike, tape cartridge, earphone. Weight 3 1/2 lbs.

**Crowncorder
Model SHC 55
7 7/8 x 25-9/16 x 16 1/8 inches
\$349.95**



All-silicon solid state stereo cassette, player/recorder, FM/AM/FM stereo and Garrard automatic record changer. The recorder has PA facilities, push-button operation, two dynamic mikes, recording from any source, 30 watts of output power. Frequency response 30 to 20,000 Hz. Radio includes FET circuits. Stereo speakers are optional. Weighs 29 lbs.

**General Electric
Model M8320
7 3/4 x 2 1/2 x 4 5/8 inches
\$49.95**



Mono battery-operated portable complete with mike, remote control and carrying strap. Has neon level indicator and record interlock. Operates on AC via converter. Weighs four pounds.

**General Electric
Model M8340
16 1/2 x 4 x 9 3/4 inches
\$204.95**



Stereo cassette ensemble consisting of recorder and two speaker systems, all housed in walnut veneer cabinets. Uses six piano key mode controls, two VU meters, tone, volume, record level and balance controls. Comes with two mikes.

**General Electric
Model M8350
8 1/8 x 10 x 2 3/4 inches**

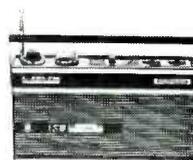


Battery or AC operated portable with capstan drive, pushbutton controls for stop, record/play, rewind, fast forward and pause. Has rotary base and treble control. AC converter stored in recorder, switchable automatic level control with VU meter, cartridge eject mechanism. Comes with dynamic remote control microphone stored in set. Foot-pedal switch optional.

**Grundig
Model C201
6 1/2 x 11 1/4 x 2 5/8 inches
\$114.95**

Mono FM radio plus recorder-player. Features simultaneous FM listening and recording. Also records live from additional radio, tape recorder or phono. Mike with remote control switch, detachable stand and clip is included. Frequency response of 80 to 10,000 Hz. Operates on five "C"-size batteries. Weighs six lbs.

**Grundig
Model C200
6 x 9 5/8 x 2 5/8 inches
\$89.95**



Upright horizontal-styled mono unit with full carrying handle. Has automatic recording level VU meter, remote control mike and stand, earphone output, record level control, volume and tone controls and elliptical speaker. Weighs 5 1/4 pounds. Response 80 to 10,000 Hz. Signal-noise ratio 45 db.

Harman Kardon
Model CAD 4
\$159.50

Professional stereo tape cassette deck. Features push-pull bias oscillator set at 105 kHz, record-playback head employing four laminations per stack to gain frequency range of 30-12, 500 at ± 2 db. newly designed pole piece used in the head against "contour effect," two illuminated VU meters, overmodulation light for tape overload. Has capstan drive, record and playback in mono or stereo, automatic digital counter with push-button reset, mono/stereo mike. Signal-to-noise 49 db, crosstalk 35 db, erasure 55 db.



Harman-Kardon
Model SC2520
18 x 18 1/4 x 8 1/2 inches
\$479

Stereo cassette recorder incorporated in modular 30-watt component-type stereo system with Garrard record changer, FM tuner and two speaker systems. Cassette deck has six piano key controls, mike inputs, mono-stereo switch, VU meter and record level control. Full complement of controls, inputs and outputs provided. Response 20 to 30,000 c.p.s., plus-or-minus one db.



Hitachi
Model TRQ210
5 x 2 3/8 x 9 inches
\$59.95

Mono portable with carrying case, remote control mike and earphone. Has piano key controls, VU meter and automatic level control. Runs on four C cells.



Hitachi
Model TRQ222
11 x 8 3/4 x 6 1/4 inches
\$129.95

Solid state four-track stereo portable with two external speakers. Has "Levelmatic" for sound control, mixing input, two VU meters. Operates on AC or six "D"-size batteries. Frequency response 50 to 10,000 Hz. Input jacks for two mikes, remote control, line-in, and external speaker. Weighs 11.7 lbs.



Hitachi
Model TRQ220
5 1/2 x 2 3/8 x 9 3/4 inches
\$79.95

Same in most respects as TRQ-210, but also runs on house current via built-in adapter.

JVC Nivico
Model 1600
2 1/2 x 5 1/4 x 9 1/4 inches
\$59.50

Battery-operated portable recorder requiring four "C"-size batteries for recording and playback. Has 800 mW output, frequency response range from 100 to 10,000 Hz and 4 by 2 1/2 inch speaker. Features automatic recording, pushbutton controls, pop-up system, standard auxiliary inputs, mike and earphone. Weighs 3.1 lbs.



JVC Nivico
Model 1700
2 1/2 x 6 x 9 1/4 inches
\$99.95

Recorder operating on six "D"-size batteries with a 50 to 12,000 Hz frequency response and one watt power output. Has 3 1/2-inch speaker, Nivico's pop-up cartridge system, tone and pause controls, speaker monitor, level meter, remote control mike. Weighs 4.4 lbs.



JVC Nivico
Model 9300
7 1/2 x 9 x 2 1/4 inches
\$34.95

Battery powered AM light weight radio-cassette player. Includes JVC Nivico pop-up system and 600mW in output. Has earphone and AC adapter jacks. Plastic cabinet with carrying handle. Operates on four "D"-size batteries. Weights 2.5 lbs.



JVC Nivico
Model 9400
 8 x 10⁷/₈ x 3-3/16
 inches
\$109.95



Portable recorder-player plus AM/FM radio with solid state circuitry. Operates on AC house current or six "D"-size batteries. Has a power output of 1.8 watts and an 80 to 10,000 Hz frequency response range. Includes five-inch speaker, rod antenna and AFC circuit for FM radio reception, JVC Nivico "pop-up" system, level meter and battery checker. Weighs 7.3 lbs.

Lafayette
Model RK90
 7 x 9¹/₂ x 2¹/₈ inches
\$49.95



Solid state AM radio and cassette recorder. Features direct recording, pushbutton keyboard type controls, record safety interlock button, AC recording bias, 2³/₄-inch dynamic speaker, capstan drive, remote control mike with stand, auxiliary input, external speaker or earphone output, battery voltage and recording audio level metering. Operates on four "C"-size batteries or 117 VAC with optional AC adapter.

Lafayette
Model RK80
 5³/₈ x 9 x 2¹/₂ inches
\$29.99



Solid state portable recorder. Has pushbutton controls for fast forward and rewind, capstan drive, 2³/₄-inch speaker, remote control mike with stand. Operates on four "C"-size batteries.

Lafayette
Model RK200
 7 x 8³/₄ x 4 inches
\$79.95



Solid-state auto stereo providing four-track stereo playback and two-track mono record. Has single lever control for all tape modes, stereo balance control, record/safety button, separate volume and tone controls, remote control mike.

Masterwork
Model M 642



Portable cassette recorder/player with solid state circuitry, piano key pushbuttons, fast forward and rewind time maximum 70 seconds for C-60 cassette, calibrated volume control, tape speed 1⁷/₈ ips, dynamic mike with remote control. Operates on four "C"-size batteries. Recording level and battery life meter. Wow and flutter 0.5%.

Lafayette
Model RK85
 8³/₄ x 5 x 2¹/₄ inches
\$44.95



Mono cassette recorder using five piano keys, double duty meter, earphone jack, 2³/₄-inch speaker, complete with remote control mike, hand strap and earphone.

Masterwork
Model M 652



Portable recorder/player operating on AC or DC power supply (no adapter required) or four "C"-size batteries. Comes with remote mike and carrying case. Equipped with variable tone control, automatic level control, level meter, battery level indicator, calibrated control knobs—tone and volume, piano key pushbuttons (rewind, play, fast forward, stop), push-button record.

Mercury
Model TR4450
 10½ x 10½ x 3 inches
 \$114.95



Stereo table model complete with two mikes. Full complement of inputs and outputs, pop-up cassette release, VU meter, separate record volume controls. Response 60 to 10,000 c.p.s. Signal-noise ratio 45 db.

Midland
Model 12-120
 8½ x 4½ x 2½ inches
 \$44.44



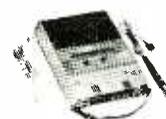
Portable mono with piano keys, tone and volume controls, record level meter. Complete with remote control mike. Runs on 5 C cells.

Mercury
TR4500
 10 x 7 x 3½ inches
 \$159.95



Three-piece stereo cassette system consisting of recorder and two matching speaker systems, all in matching plastic cabinets. Full complement of controls, inputs and outputs and VU meter. Response 60 to 10,000 c.p.s. Signal-noise ratio 45 db.

Midland
Model 12-124
 9¾ x 7¾ x 2½ inches
 \$59.95



AC/DC mono cassette portable with automatic level control, piano key operation, record level meter, ¾-inch speaker. Complete with remote control mike.

Mercury
Model TR7200
 10 x 12 x 3¾ inches
 \$129.95



Portable mono with full complement of connections for tuner, etc. Runs on batteries or house current. Features include pop-up cassette release, automatic level control, VU meter/battery level indicator, push-button operation. Can be used as stereo playback deck in a hi-fi system. Response 60 to 8,000 c.p.s. Signal-noise ratio 40 db. Weighs 7½ pounds.

Norelco
Carrycorder Model 150
 7¾ x 4½ x 2¼ inches
 \$69.50



Features VU meter for recording level and battery condition, separate record and playback volume controls, fast forward and rewind, response 80 to 10,000 c.p.s. Signal-to-noise ratio 45 db. Complete with dynamic microphone, patchcord and demonstration cassette, and carrying case. Operates on five "C" cells. Weighs 3 lbs.

Mercury
Model TR8060
 8¾ x 4¾ x 2¾ inches
 \$49.95



Pocket mono portable, piano key operation level indicator/battery condition meter, volume control, remote control microphone. Runs on batteries or on house current via optional adaptor. Response 100 to 7,500 Hz. Signal-noise ratio better than 45 db. Weighs three lbs.

Norelco
Car Mount
 \$25



Auto dashboard mounting device to hold Model 150 recorder for use with auto radio.

Mercury
Model AP8300
 2½ x 6¼ x 7 inches
 \$119.95



Automobile model with mounting bracket. Volume, balance and tone controls, automatic level control, night light, complete with two 5-inch speakers and grilles and remote control mike. Response 50 to 10,000 c.p.s. Signal-noise ratio 45 db.

Norelco
Model 175
 11¼ x 2¾ x 9½ inches
 \$100 (approx.)



Enlarged version of Model 150 with larger speaker in larger case. It has a record level control, tone and volume controls, and plugs for external power, accessories and input/output. Response is 80 to 10,000 c.p.s.

Norelco
Model 450
12½ x 8½ x 3½ inches
\$199.50



Stereo and mono recorder ensemble with frequency response of 60 to 12,000 c.p.s. and wow and flutter less than 1/10th of one per cent R.M.S. Comes in teak cabinet with matching speaker systems. Features include record level control, tone, loudness and balance controls, digital counter, VU meter, and public address capability.

Norelco
Model 2500
8 x 4½ x 2¼ inches
About \$50



Stereo cassette deck player-only with cassette ejector. Response 60 to 10,000 c.p.s. Signal-noise ratio 43 db.

Norelco
Model 2502
About \$100



Automatic stereo cassette changer. Holds 6 cassettes. Features automatic shutoff, push-button controls, pause control, digital counter. Response 60 to 10,000 c.p.s. In teak cabinet.

Norelco
Model RR482
12 x 7 x 3 inches



Solid-state portable cassette recorder with AM/FM-AFC radio. Records live or off its own radio by AC house current or five "C"-size batteries. Has monitoring system, automatic recording level control, automatic motor governor control for tape speed, ejector button, variable tone control, mike input, phono input, AM antenna, adjustable telescopic FM antenna. Weighs 4¾ lbs.

Norelco
Model 2602
7¾ x 7-5/16 x 2-3/16 inches
\$129.95



Auto stereo cassette player with satellite speakers. Features automatic start/stop, fast forward and rewind controls, balance rotating knob, bass/treble tone lever, volume control and cassette eject lever. Frequency response 60 to 10,000 Hz ±3 db.

Norelco
Model 2200
About \$30



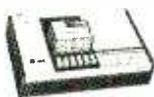
Vertical-styled cassette player-only for portable use. Top slot-load, integrated carry handle. Response 100 to 7,000 c.p.s. Runs on 6 flashlight cells.

Optacord
Model 451
\$119.95



Portable AC/DC model with VU/battery condition meter, tone control, five-inch speaker, separate controls for volume and record level, earphone and external speaker jacks. Comes with remote control mike and telephone adapter.

Norelco
Model 2401
15¼ x 9¼ x 4¾ inches
\$249.95



Automatic stereo cassette changer recorder of solid state circuitry with instant record or playback. Has separate speakers, pushbutton record, playback, stop, fast forward, rewind, pause, start/reject. Controls for recording balance, tone, volume. Index counter has zero reset. Walnut cabinetry. Frequency response 60 to 10,000 Hz ±3 db, signal-to-noise ratio 43 db. Power output two watts per channel.

Panasonic
Model RS280S
19¼ x 11½ x 5½ inches
\$269.95

Solid state four-track stereo cassette tape recorder with FM/AM MPX tuner. Has capstan drive, piano-key operation, one-step slide-in operation, separate controls for each channel, automatic frequency control (for FM), dynamic mike. Housed in walnut cabinets with chrome trim.

Panasonic
Model RQ 209S
 5½ x 10¼ x 2¾ inches
 \$49.95



Portable operating on AC or batteries uses capstan drive principle. Has built-in automatic recording level control, eject pushbutton, full range dynamic speaker, fast forward and rewind controls.

Panasonic
Model RE7060
 17¾ x 11⅞ x 6 inches
 \$249.95

Four-track stereo cassette deck combined with high fidelity radio. Equipped with two 6½-inch dynamic speakers. Has continuous tone control, stereo eye system for FM stereo station recognition, illuminated slide-rule tuning, "black-out" face. Comes with mike.

Panasonic
Model RQ233S
 9½ x 11 x 3 inches
 \$59.95



Solid-state cassette recorder and AM radio combined in one battery or AC operated unit. Featuring direct recording from AM to cassette or live recording. Has capstan drive; slide rule tuning; automatic recording level, fast forward and rewind controls; speaker monitoring "on-off" switch, full range dynamic speaker. Housed in an attache styled black case.

Panasonic
Model RQ-3100
 9¼ x 4½ x 2½ inches
 \$79.95



Single-speed (1⅞ i.p.s.) cartridge unit with seven transistors, VU meter, fast forward and rewind, 2½-inch speaker. Uses Philips-type cassette. Powered by five "C" cells. Frequency response 100 to 7,000 c.p.s. Includes remote control mike. Weight 3½ lbs.

Panasonic
Model RS290S
 \$499.95

Twelve-cassette automatic changer featuring individual six-pushbutton operation, 12-position illuminated play window, three-position audio control center knob, separate bass and treble tone controls, four-speaker sound system, dial VU meters, speaker monitoring "on-off" switch, pause control, fast forward or rewind, three-digit tape counter, solid-state engineering.

Panasonic
Model RF7270
 11 x 3½ x 11 inches
 \$125



Mono cassette recorder/AM/FM portable radio combination with telescoping antenna, six-inch speaker, tone control, AFC on FM, and vernier tuning. Doubles as a car radio by installing bracket.

Panasonic
Model RE7080
 18¾ x 15-5/16 x 6⅞ inches
 \$349.95

Four-track stereo cassette plus FM/AM and FM stereo. Features motor-driven automatic tuning, twin speaker cabinets housing a total of six speakers, motion feedback system for smooth frequency response, stereo eye system for recognition of FM stereo station, separate bass and treble tone controls, illuminated roto-dial tuning, black-out face. Comes with mike.

Philco
Model TRC31WA
 10½ x 8½ x 3 inches
 \$109.95



Mono cassette recorder for AC operation. Uses five-inch oval speaker, VU meter, tone control, digital counter, five piano keys, complete with mike. Has 7.5 watts output.

Philco
Model TRC36WA
 12½ x 11¾ x 3 inches
\$149.95



Mono cassette recorder with AM/FM tuner, AC operated. Uses five piano key controls, VU meter, tone control, and digital counter. Comes with one mike. Walnut cabinet. Output 7.5 watts.

RCA
Model YZB08
 2¾ x 5¾ x 8¾ inches
\$30



Solid-state portable operating on four "C"-size batteries. Has lever control for fast forward, forward, rewind and stop. Plays through built-in speaker or earphone which comes with it.

Philco
Model TRC42WA
 10½ x 8½ x 3 inches
\$169.95



Stereo cassette ensemble for AC operation, consisting of recorder and two matching speaker systems. Uses five piano key controls, two VU meters, tone control and digital counter. In walnut. Complete with two mikes. Output 15 watts.

RCA
Model YLB 12
 3 x 4⅞ x 8 inches
\$45



Built-in automatic level control is featured in this solid state battery powered portable recorder-player. Has lever-operated controls including fast forward.

Philco
Model TRC47WA
 12¼ x 11¾ x 3 inches
\$239.95



Stereo cassette recorder with AM/FM stereo tuner, AC operated, with matching speaker systems in walnut finish. Has digital counter, two VU meters, five piano key controls, 15 watts output, tone and balance controls. Comes with two mikes.

RCA
Model YLB 18
 3¼ x 6 x 9¼ inches
\$59.95



Recorder-player with solid-state circuitry operates on AC house current or batteries. Features include start/stop switch on mike, fast forward control and built-in automatic level control. Housed in black plastic case.

Philco
Model TRC20BK
\$59.50



Features 2½-inch speaker, black and chrome plastic cabinet, three-pound weight. Includes remote control mike, cassette and carry strap. Operates on four C cells. Lever control.

Philco
TRC25BKG
\$79.95



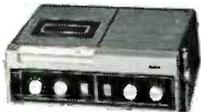
Same as TRC20BK except control is pushbutton type. It runs on five C cells, uses four-inch oval speaker, and weighs 3½ pounds.

RCA
Model YLB 25
 3½ x 12 x 8¼ inches
\$75



Solid state recorder-player operating on AC house current or four "D"-size batteries. Equipped with remote control mike and featuring tone control, pushbutton operation including fast forward, VU recording level meter, automatic level control, release button for cassette removal. Housed in black finish plastic case.

RCA
Model YLD 40
9 $\frac{3}{4}$ x 12 x 9 inches
\$129.95



Stereo portable recorder with two independent four-inch speakers. Operates on four "D"-size batteries or AC house current. Equipped with pushbutton controls, dual VU recording level meters, tone controls. Comes with two mikes (one with remote on-off switch), neck cords and mike stands. Plastic cabinet has walnut grain finish. Approximate combined weight of recorder, speakers and accessories is 18 lbs.

Roberts
Model 80
11 $\frac{3}{8}$ x 8 x 2 $\frac{3}{4}$ inches
\$69.95



Portable mono recorder powered by AC or four "D"-size batteries, featuring pushbutton operation, cassette eject button, $\frac{1}{4}$ -inch round speaker, on-off automatic level control, three-digit counter, tone control level indicator. Comes with stop-start mike. Signal-to-noise ratio +40 db. Distortion less than 5%. Weighs 5.7 lbs.

Roberts
Model 530
\$139.95

In walnut finish base this cassette recorder/player with AM/FM radio features direct recording off the air, stop-start mike, pushbutton operation, tone control telephone pickup, speaker, mike and line inputs.

Sony
Model 50
\$125.50



Pocket size, automatic recording control, built-in microphone, personal earphone, servocontrol motor, operation off "A" cells. Record level meter.

Roberts
Model 95
7-5/6 x 10 x 2-15/16 inches
\$119.95



Walnut-encased stereo deck with pushbutton operation, two VU meters, stereo mike and line inputs, stereo line inputs, three digit tape counter, pause switch, cassette eject button. Signal-to-noise ratio 40 db. Distortion less than 5%. Weighs 4.8 lbs.

Sony
Model 100
\$99.50



AC/DC recorder with automatic recording control, built-in battery charger, servocontrol motor, cassette ejector, level meter, complete with remote control microphone, earphone and carrying case.

Roberts
Model 525
12-1/16 x 8-3/16 x 2 $\frac{3}{4}$ inches
\$99.95



Combination of cassette recorder with AM/FM radio in a solid state portable unit. Equipped for direct off the air recording. Has pushbutton operation, level indicator, built-in speaker, eject button, telescoping FM antenna, tone control mike and line inputs. Comes with stop-start mike. Operates on AC or four "C"-size batteries. Signal-to-noise ratio 40 db. Power output two watts. Weighs $5\frac{1}{2}$ lbs.

Sony
Model 124CS
\$179.50



Stereo recorder with full-range extension speakers plus built-in speaker. Features pushbutton operation, pop-in-and-out cassettes, record level and battery strength indicator, stereo balance, tone and volume controls, stereo headphone jack. Operates on four flashlight batteries, AC, car battery or optional rechargeable battery pack (recharging circuit built into unit). Has Sonymatic recording control, one-point stereo dynamic mike with stop-start switch. Frequency response 50 to 10,000 Hz. Signal-to-noise ratio 45 db. Weighs five lbs. with batteries.

Sony
Model 124
\$149.50

Same as Model 124CS but without extension speakers.

Sony
Model 125
13 x 3 $\frac{3}{8}$ x 7 $\frac{3}{8}$ inches
\$129.50



Stereo recorder deck mounted in a walnut base utilizes extended dynamic range Sony-matic circuit (similar to circuit in Model TC8) with no VU indication. Pushbutton operated and incorporates pop-up lid and cassette ejector. Has stereo headphone jack, tape sentinel alarm system, noise suppressor switch, digital tape counter, pause control. Frequency response 50 to 10,000 Hz. Signal-to-noise ratio 45 db. Weighs 7 lbs. 8 oz.

Sony
Model 130
\$229.50



Stereo recorder player housed with its speakers in walnut claims eight-watt power output per channel. Has noise suppressor, tone, balance and volume control knobs, front panel stereo headphone jack, pushbutton operation controls. Frequency response 40 to 10,000 Hz.

Standard
Model SR100
2 x 4 $\frac{1}{2}$ x 6 $\frac{3}{4}$ inches
\$59.95



Features VU meter which also is battery condition indicator, two slide controls for Stop/Play and Fast Forward/Rewind. Comes complete with three cassettes, remote control mike, earphone, batteries, patch cord and leather carry case. AC adaptable. Weighs 34 ounces. Runs on six AA batteries.

Standard
Model SR107
2 x 5 x 8 $\frac{3}{8}$ inches
\$44.95



Lever-controlled for Stop/Play, Fast Forward/Rewind, Volume control, record interlock, neon level light which also serves as battery indicator, 2 $\frac{1}{2}$ -inch speaker, complete with remote control mike with mike stand and mike case. Weighs 2 $\frac{3}{4}$ pounds. Optional AC adaptor. Runs on four C cells.

Symphonic
Model CR40
5 x 8 $\frac{7}{8}$ x 2 $\frac{3}{4}$ inches
\$59.95



Portable mono unit with four piano keys, dual purpose meter, volume control, earphone jack, complete with remote control mike, carrying case and shoulder strap. Weighs 4 $\frac{1}{2}$ pounds.

TEAC
Model A20
9 $\frac{3}{4}$ x 10 x 4 $\frac{1}{4}$ inches
\$139.50



Stereo deck with two heads, outer rotor motor drive system, directional stereo mike. Has dual VU meter, pause button, all-silicon transistor amplifier, headphone monitoring. Frequency response 60 to 10,000 Hz. Signal-to-noise ratio 45 db. Weighs 10 lbs.

Telefunken
Model 4001
14 $\frac{3}{8}$ x 8 x 6 $\frac{3}{4}$ inches
\$69.95



Features VU meter for level and battery condition, slide lever operation control, separate volume and record level controls, built-in speaker. Response 80 to 10,000 c.p.s., plus-minus three db. Comes with remote control mike and small accessories. Optional adapter and car mounting bracket.

Toshiba
Model KT 20P
2 $\frac{1}{8}$ x 5 $\frac{1}{4}$ x 10 inches
\$99.50



Dynamic four-inch speaker is built in to this solid state battery/AC operated recorder. Featured is "Power Sentry" for switch over to battery should AC power fail. Has remote control dynamic mike, automatic record level, keyboard operation, record and battery condition indicator, record and playback at 1 $\frac{7}{8}$ i.p.s. Frequency response 50 to 10,000 Hz, signal-to-noise ratio 40 db. Weighs five lbs with batteries.

Wollensak
Model 4200
 4½ x 7⅞ x 2¼ inches
 \$69.95



Features VU meter for recording level and battery condition, separate record and playback volume controls, dynamic microphone with remote control switch, response 80 to 10,000 Hz. Signal-to-noise ratio 45 db. Weighs four lbs with batteries.

Wollensak
Model 4800
 13⅞ x 9⅜ x 4⅞ inches
 \$229.95



Stereo with separate compression loaded speakers. Has full-size motor and flywheel. Records and plays both mono and stereo cassettes. Equipped with interlock function controls, separate record level meters for each channel, digital counter, cassette ejector. Weighs 21½ lbs.

Westinghouse
Model T40CC
 2¼ x 7¾ x 4½ inches
 \$69.95



Battery operated table model with push-key operation, dual purpose meter, remote control mike. Black and chrome case.

Westinghouse
Model TMC2030
 2¼ x 7¾ x 4½ inches
 \$49.95



Economy version of T40CC, in portable case.

V-M
Model 762
 9¾ x 4⅝ x 2¼ inches
 \$69.95



Battery-operated mono portable with separate record level and volume controls and record level/battery condition indicator, with remote control mike. Response 80 to 10,000 Hz. Signal-to-noise ratio 45 db. Weighs four pounds.

Wollensak
Model 4000
 \$54.95



Two-track recorder player with capstan drive, pushbutton controls, VU meter, AC bias and erase. Operates on batteries and comes with dynamic mike with remote start-stop switch.

V-M
Model 764
 7⅞ x 14¼ x 9⅞ inches
 \$199.95



Table model stereo cassette ensemble, consisting of recorder and two separate speaker systems, complete with two mikes. Has seven piano keys for function, plus tone, volume, balance, and record level controls, VU meter, and digital counter. Response 50 to 10,000 Hz.

Now...for the first time...a brand-new service that offers you stereo tape cartridges—at great savings!

As your introduction, choose

ANY 3
8-TRACK CARTRIDGES
\$5.95
FOR ONLY

if you join now, and agree to buy as few as 4 additional cartridges during the coming year, from hundreds to be offered.

YES, IT'S TRUE! You may have any 3 of the best-selling 8-track cartridges shown here — ALL 3 for only \$5.95! That's the fabulous bargain the brand-new Columbia Stereo Tape Cartridge Service is offering new members who join and agree to purchase as few as four additional selections in the coming year.

FREE SUBSCRIPTION TO CARTRIDGE BUYING GUIDE. You'll have no problem selecting four more cartridges because the Service offers you so many cartridges to choose from... all described in the monthly Buying Guide which you will receive free! You'll find hit 8-track cartridges from every field of music — the best sellers from many different labels! You may accept the regular monthly selection... or any of the other cartridges offered... or take no cartridge at all that month.

YOUR OWN CHARGE ACCOUNT! Upon enrollment, the Service will open a charge account in your name. You pay for your cartridges only after you've received them — and are enjoying them. They will be mailed and billed to you at the regular Service price of \$6.95 (Classical, occasional Original Cast and special cartridges somewhat higher), plus a mailing and handling charge.

YOU GET FREE CARTRIDGES! Once you've completed your enrollment agreement, you'll get a cartridge of your choice FREE for every two cartridges you buy! That's like getting a 33 1/3% discount on all the 8-track cartridges you want... for as long as you want!

COLUMBIA STEREO TAPE CARTRIDGE SERVICE
Terre Haute, Indiana

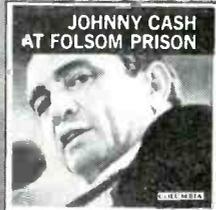
DEAN MARTIN'S
GREATEST HITS!
VOL. 1



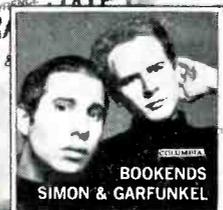
7085. Includes: Everybody Loves Somebody, Houshon, Nobody's Baby Again, Bummig Around, etc.



6876. Featuring Janis... singing Piece of My Heart, Summer-time, 9 more



6115. Johnny's big hit: Folsom Prison Blues, Jackson (with June Carter), The Wall, etc.



6366. Includes Mrs. Robinson from "The Graduate," Fakin' It, At The Zoo, Old Friends, etc.



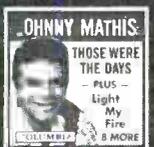
FOR YOUR CAR!



FOR YOUR HOME!



7051. Also You Send Me, A Change, I Take What I Want, etc.



7046. Also: Little Dean, Apples, Feelin' Groovy, 10 in all



7028. Plus: I'm Just a Man, If The Day Would Come, 11 in all



6238-6239. Twin-Pack Tape (Counts As Two Selections)



6440. Also: Up, Up And Away; Ode To Billie Joe; etc.



6998. Plus: This Town, It Was A Very Good Year, 12 in all



6297. Also: People, The Good, The Bad And The Ugly, 11 in all



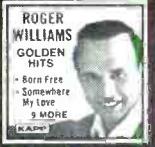
6313. "Like the movie, a hit album" — Billboard Magazine



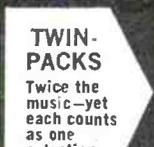
6712. Includes: Look Of Love, Never, My Love, 11 in all



6558. Plus: Love Is Blue; Windy; Up, Up And Away; etc.



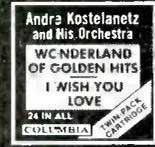
5553. Plus: Maria, Moon River, Yesterday, Demilique, etc.



Twice the music—yet each counts as one selection



7179. Also: Voodoo Child, Rainy Day, Dream Away, 16 in all



6237. Plus: Java, Ebb Tide, Walk On The Wild Side, 26 in all

And if you do not own a cartridge player, we will give you this **8-Track Tape Cartridge Player**

\$19.95

FOR ONLY



FEATURES • Plays through your home stereo record system... no special installation, plus right into your amplifier or stereo phonograph • Push-Button Program Selector... changes from one program to another with the touch of your finger • Completely automatic operation • Overall Dimensions: 11 3/4" wide x 10 3/4" deep x 4 3/4" high

With this beautiful, top-performing Player, you'll be able to add the convenience and full stereo sound of 8-track cartridges to your present stereo record system! Our regular price for the Player is \$69.95, yet you may have it for only \$19.95, when you purchase your first three tapes for only \$5.95, and then agree to purchase as few as twelve additional tapes during the coming year. Check the box in the coupon at right, and note that, if you wish, you may charge the Player to one of your credit cards.

COLUMBIA STEREO TAPE CARTRIDGE SERVICE
Terre Haute, Indiana 47808

Please enroll me as a member of the Service. I've indicated below the three cartridges I wish to receive for \$5.95, plus postage and handling. I agree to purchase four more selections during the coming year at the regular Service price, and I may cancel my membership any time thereafter. If I continue, I am to receive an 8-track cartridge of my choice FREE for every two additional selections I accept.

SEND ME THESE 3 CARTRIDGES (fill in numbers below)

427-9/1C

Name (Please print) First Name Initial Last Name

Address

City State Zip

Check here if, in addition, you want to receive the Columbia 8-Track Tape Cartridge Player for only \$19.95. Enclose your check or money order for \$19.95 as full payment. (Complete satisfaction is guaranteed or your money will be refunded in full.) You'll be billed \$5.95 for your first three cartridges (plus a mailing and handling charge), and you merely agree to purchase as few as twelve additional cartridges during the coming year at the regular Service price. (Be sure to indicate in the boxes above the three cartridges you want.)

If you wish to charge the \$19.95 for your Columbia Player to a credit card, check one and fill in your account number below:

American Express Diners Club Uni-Card
 Master Charge Midwest Bank Card
 BankAmericard (California residents only)

Account Number 428-1/W6 428-2/X4

Signature

How to Select the Right Recording Tape



One of the questions asked most frequently by new recordists is, "What kind of blank recording tape should I use?" The question arises because whether it comes on a reel or in a cassette, the new owner has available to him a wide variety of branded and unbranded tapes. The latter type has one distinct advantage over the former—price. It's often half the price of standard-brand tape, and many new recorder owners are tempted to buy it for that reason. Unbranded tape is made, for the most part, by the manufacturers of brand-name tapes—but it's sold under the names of specific dealers, under certain proprietary names such as Moviesound or Studiotape or even in a plain white box rather than under the manufacturer's own name. The reason for this is that the manufacturer is making no claims of quality or performance for his unbranded tape. It may be spliced ends from large reels sold by duplicators, edges of the wide rolls on which tape is made in the factory (containing uneven coating and occasional defects). It may even be videotape or instrumentation tape reslit for use on audio recorders. In some cases, it's a special low-cost formulation made specifically for sale as so-called white-box tape. The quality varies from excellent (in the case of some spliced ends) through fair for some of the low-cost coatings to harmful for reslit videotape and downright poor in the case of outside cuts. While you may be lucky and hit a good source of supply for unbranded tape, the odds eventually are against you since you have no way of telling just what your source—or your dealer's source—is.

Because it's impossible to discuss unbranded tape in specifics, the rest of this article will be concerned with standard brands of tape—those made by manufacturers whose name and address appears clearly on the box. Most manufacturers supply essentially the same coating of oxide on a wide variety of tape

bases, at a wide variety of prices. Price here reflects not quality, but the quantity of tape you're buying and the cost of the base material.

All manufacturers choose from among three types of base materials—acetate film, polyester, and an intermediate plastic called polyvinyl chloride (PVC for short).

Acetate is the oldest of the three, and the least expensive. It is reasonably flexible, breaks clean when too much tension is exerted on it, and is favored by professional users for these reasons. Theoretically, it is subject to changes in temperature and humidity and tends to oxidize when stored over long periods of time. As a practical matter, however, acetate tapes stored with normal care in the home last as long as 10 years before deteriorating—if they do even then. Acetate tapes come in thicknesses of 1½ and one mil (.0015" and .001" respectively.)

Until recently, all magnetic tape coatings have consisted primarily of iron oxide (a sophisticated form of iron rust). The iron particles can be magnetized to form patterns on the tape. These patterns stay fixed until a strong magnetic force rearranges the particles. Now there's talk of a new type of coating, made of chromium dioxide, which claims higher fidelity capability and lower background noise than even the best of today's iron oxide tapes. However, Crolyn (the trade name for the chromium dioxide tape) doesn't exist even in experimental quantities for audio recording at this writing; and it's likely to be a year or two before you can buy any. In the meantime, there is a selection of iron oxide coatings tailored to do a number of recording jobs.

Polyester tapes, many of them sold under the trade name Mylar, are slightly more expensive for a comparable amount of tape on a comparable reel. Polyester tapes are somewhat stronger than acetate,

by Paul Maxwell

however, and as a result can be made even thinner—they come in 1½, one and half mil thicknesses. Unlike acetates, they aren't affected by heat or humidity, and they stretch before they break. The super-thin (½-mil) tapes used to be subject to stretching which created difficulties. To eliminate the problem, suppliers began prestretching their bases, making for a stronger and more costly tape. These prestretched bases are identified on the box as "tensitized," and usually are to be found only on half-mil tape. Polyester, incidentally, is the base used for all cassette tapes.

Somewhere in between is PVC. It has some of the strength of polyester and some of the economy of acetate. It breaks—but it requires a great deal of effort. It can be made in half-mil thicknesses.

So far, we've been talking about bases, not coatings. Since most tape manufacturers buy these base films from the same suppliers, bases have little to do with the sound quality of a given tape, although they have quite a bit to do with cost. It's worth noting that, while all recorders are supposed to work equally well with all tape bases, some machines perform very much better with some tape types than with others. Many of today's less expensive home machines, for example, work best with the thinner polyester tapes because these tapes have the greatest flexibility and can wrap themselves comfortably around the recorder head. On the other hand, many older home recorders were designed to utilize 1½ mil tapes.

The so-called standard coatings of most manufacturers have improved greatly in the past few years. These are designed to provide wide latitude for recording anything from the rumblings of the New York City subway to a symphony orchestra; from taping the song of the nightingale to the kids' birthday party. Most manufacturers put this coating on a wide variety of tape bases, in a variety of lengths, with a variety of prices. There is no difference in quality or in sound reproduction, however, between a 55 cent three-inch reel and an \$11.95 seven-inch reel with the same coating by the same manufacturer. The difference is only in the amount of tape you get and the type of base you get it on.

Besides the standard coating, there are several specialized coatings, designed for specialized types of recording. These include tape specially designed to reduce print-through (leakage of a recorded signal from one layer of tape to the next creating an echo); low noise, designed to reduce tape hiss; high output, designed to allow you to put a stronger signal on the tape; mastering tape, designed for transferring a recording to other tapes; and slow-speed recording tape, designed to improve high frequencies at slow tape speeds.

Description reel size ft. (in.)	Stock No.	Price
1½ Mil Acetate, Standard Coating		
150 3	American 1A	55¢
150 3	Ampex 911	65¢
150 3	Audiotape 151	70¢
150 3	Brand Five 15D3	72¢
150 3	Ferrodynamics 15F3	69¢
150 3	Irish 195-11	65¢
150 3	Irish 211-111	70¢
150 3	RCA 15A-1.5	70¢
150 3	Robins 15H3	\$1.00
150 3	Scotch 111-150	70¢
150 3	Soundcraft S-1	70¢
250 3¼	American 2A	75¢
300 3	Irish 195-121	\$1.55
300 4	American 3A	\$1.10
300 4	Audiotape 351	\$1.35
300 4	RCA 15A-3	\$1.35
600 5	American 6A	\$1.75
600 5	Ampex 911	\$1.75
600 5	Audiotape 651	\$2.25
600 5	Brand Five 15D5	\$1.65
600 5	Ferrodynamics 15FS	\$1.55
600 5	Ferrotape 15X5	\$2.25
600 5	Irish 195-131	\$1.75
600 5	Irish 211-131	\$2.25
600 5	RCA 15A-6	\$2.25
600 5	RCA V15-A-6	\$1.50
600 5	Robins 15A5	\$2.36
600 5	Scotch 11-600	\$2.25
600 5	Soundcraft S-6	\$2.10
800 5¾	Robins 15A56	\$3.15
850 5¾	Audiotape 851	\$2.95
850 5¾	Irish 195-141	\$2.50
850 5¾	Irish 211-141	\$2.80
850 7	Robins 15A74	\$3.30
900 5¾	Reeves S-9	\$2.73
1200 7	American 12A	\$2.75
1200 7	Ampex 911	\$2.95
1200 7	Audiotape 1251	\$3.50
1200 7	Brand Five 15D7	\$2.52
1200 7	Ferrodynamics 15F7	\$2.40
1200 7	Ferrotape 15X7	\$3.60
1200 7	Irish 195-151	\$2.95
1200 7	Irish 211-151	\$3.50
1200 7	RCA 15A-12	\$3.50
1200 7	RCA V15-A-12	\$2.50
1200 7	Robins 15A7	\$3.80
1200 7	Scotch 111-1200	\$3.50
1200 7	Soundcraft S-12	\$3.50
1500 7	American 15-A	\$3.50

Description		Stock No.	Price	Description		Stock No.	Price
reel size	ft.			ft.	reel size		
	(in.)						
1 Mil Acetate, Standard Coating							
225	3	American L-2A	70¢	150	3	Ferrodynamics 15F3M	95¢
225	3	Ampex 921	80¢	150	3	Soundcraft L-1	75¢
225	3	Brand Five 10D3	95¢	600	5	American 6-M	\$2.10
225	3	Ferrodynamics 10F3	90¢	600	5	Ampex 931	\$2.25
225	3	Ferrodynamics 10C3	\$1.05	600	5	Audiotape 671	\$2.65
225	3	Irish 196-111	80¢	600	5	Brand Five 15D5M	\$3.05
225	3	Irish 221-111	90¢	600	5	Ferrodynamics 15F5M	\$2.91
225	3	RCA 10A-2.25	55¢	600	5	Irish 231-131	\$2.65
225	3	Robins 10H3	\$1.15	600	5	RCA 15M-6	\$2.65
225	3	Soundcraft S5-2	90¢	600	5	Scotch 102-600	\$2.65
350	3¼	American L-3A	\$1.00	600	5	Soundcraft L-6	\$2.65
375	3¼	RCA 10A-3.75	\$1.15	1200	7	American 12-M	\$3.35
450	4	American L-4A	\$1.40	1200	7	Ampex 931	\$3.65
450	4	Irish 196-121	\$2.10	1200	7	Audiotape 1271	\$4.25
500	4	Robins 10A4	\$2.40	1200	7	Brand Five 15D7M	\$2.52
900	5	American L-9A	\$2.50	1200	7	Irish 231-151	\$4.25
900	5	Ampex 921	\$2.50	1200	7	Ferrodynamics 15F7M	\$4.75
900	5	Audiotape 941	\$3.50	1200	7	RCA 15M-12	\$4.25
900	5	Brand Five 10D5	\$2.00	1200	7	Scotch 102-1200	\$4.25
900	5	Ferrodynamics 10F5	\$1.90	1200	7	Soundcraft L-12	\$4.25
900	5	Ferrotape 10X5	\$3.55	1 Mil Polyester, Standard Coating			
900	5	Irish 196-131	\$2.50	225	3	American L-2M	75¢
900	5	Irish 221-131	\$3.25	225	3	Ampex 941	\$1.00
900	5	RCA 10A-9	\$3.50	225	3	Audiotape 261	\$1.00
900	5	RCA V10-A-9	\$1.95	225	3	Brand Five 10D3M	\$1.05
900	5	Robins 10A5	\$3.75	225	3	Ferrodynamics 10F3M	\$1.00
900	5	Scotch 140-900	\$2.50	225	3	Ferrodynamics 10C3M	\$1.25
900	5	Scotch 190-1800	\$5.50	225	3	Irish 197-111	95¢
900	5	Soundcraft S5-9	\$3.29	225	3	Irish 241-111	\$1.00
1150	5¾	Irish 196-141	\$3.95	225	3	RCA 10-M-2.25	\$1.00
1150	5¾	Irish 221-141	\$4.00	225	3	Robins 10H3M	\$1.40
1200	5¾	Audiotape 1241	\$3.75	225	3	Soundcraft PL 2	\$1.00
1200	5¾	Robins 10A56	\$4.95	300	3	Sony PR-150	85¢
1300	7	Robins 10A74	\$5.20	300	3¼	Sony PR-150	95¢
1800	7	American L-18A	\$4.10	350	3¼	American L-3M	\$1.15
1800	7	Ampex 921	\$4.25	450	4	Irish 197-121	\$2.55
1800	7	Audiotape 1841	\$5.50	500	4	Robins 10A4M	\$2.60
1800	7	Brand Five 10D7	\$3.35	900	5	American L-9M	\$2.70
1800	7	Ferrodynamics 10F7	\$3.17	900	5	Ampex 941	\$2.85
1800	7	Ferrotape 10X7	\$5.65	900	5	Audiotape 961	\$3.60
1800	7	Irish 196-151	\$4.25	900	5	Brand Five 10D5M	\$2.50
1800	7	Irish 221-151	\$5.25	900	5	Ferrodynamics 10F5M	\$2.38
1800	7	RCA 10A-18	\$5.50	900	5	Ferrotape 10K5M	\$3.70
1800	7	RCA V10-A-18	\$3.75	900	5	Irish 197-131	\$2.85
1800	7	Robins 10A7	\$5.95	900	5	Irish 241-131	\$3.40
1800	7	Scotch 140-1800	\$4.25	900	5	RCA 10M-9	\$3.60
1800	7	Scotch 190-1800	\$5.50	900	5	RCA V10M-9	\$2.25
1800	7	Soundcraft S5-18	\$5.17	900	5	Robins 10A5M	\$3.90
2000	7	American L-20A	\$5.17	900	5	Scotch 150-900	\$3.60
1800	8	Audiotape 1841	\$5.50	900	5	Sony PR-150	\$1.75
1½ Mil Polyester, Standard Coating				900	5	Soundcraft PL-9	\$3.40
150	3	American 1-M	60¢	1200	5¾	Audiotape 1261	\$4.15
150	3	Brand Five 15D3M	\$1.00	1200	5¾	BASF 204-0051	\$4.76
				1200	5¾	Irish 197-141	\$3.50
				1200	5¾	Irish 241-141	\$4.50

Description reel size		Stock No.	Price				
ft.	(in.)						
1200	5 3/4	Robins 10A56M	\$5.25	600	4	RCA 5TM-6	\$3.05
1300	7	Robins 10A74M	\$5.60	650	4	Robins 5A4M*	\$2.90
1800	7	American L-18M	\$4.60	650	4	Robins 5A4MT	\$3.65
1800	7	Ampex 941	\$4.95	900	4	BASF 205-0063	\$4.27
1800	7	Audiotape 1861	\$6.20	1200	3 1/4	Micro Media 25	\$4.25
1800	7	BASF 204-0052	\$6.62	1200	4 1/4	BASF 205-0064	\$6.13
1800	7	Brand Five 10D7M	\$4.50	1200	5	American D-12MT	\$4.30
1800	7	Ferrodynamics 10F7M	\$4.28	1200	5	American D-12MS*	\$2.75
1800	7	Ferrotape 10X7M	\$6.40	1200	5	Ampex 951	\$4.50
1800	7	Irish 197-151	\$4.95	1200	5	Audiotape 1231*	\$3.50
1800	7	Irish 241-151	\$5.80	1200	5	Audiotape 1231T	\$5.45
1800	7	RCA 10M-18	\$6.20	1200	5	Brand Five 5D5M*	\$3.05
1800	7	RCA V10M-18	\$4.25	1200	5	Brand Five 5D5MT	\$4.58
1800	7	Robins 10A7M	\$6.70	1200	5	Ferrodynamics 5F5M*	\$2.91
1800	7	Scotch 150-1800	\$6.20	1200	5	Ferrodynamics 5F5MT	\$4.35
1800	7	Sony PR-150	\$2.95	1200	5	Ferrotape 5X5M*	\$4.50
1800	7	Soundcraft PL-18	\$5.80	1200	5	Ferrotape 5X5MT	\$5.60
2000	7	American L-20M	\$5.80	1200	5	Irish 198-131	\$4.50
				1200	5	Irish 251-131	\$5.45
				1200	5	RCA 5TM-12	\$4.75
				1200	5	RCA V5TM-12	\$3.95
				1200	5	Robins 5A5M*	\$4.70
				1200	5	Robins 5A5MT	\$5.90
				1200	5	Scotch 200-1200	\$5.45
				1200	5	Scotch 144-1200	\$4.50
				1600	5 3/4	Robins 5A56M*	\$6.10
				1650	5 3/4	Irish 198-141	\$6.80
				1650	5 3/4	Irish 251-141	\$6.80
				1700	7	American D-18MT	\$5.90
				1800	5	Audiotape 1833T	\$6.95
				1800	5	Ferrodynamics 5F5MTS	\$5.95
				1800	5	Ferrodynamics 5F5MS*	\$4.63
				1800	5	BASF 205-0065	\$7.65
				1800	5	Robins 5A74M*	\$6.50
				1800	5	Brand Five 5D5MTS	\$6.25
				1800	5	Brand Five 5D5MS*	\$4.85
				1800	5	Ferrotape 5X5MTS	\$7.95
				1800	5	Scotch 290-1800	\$6.95
				1800	5	Soundcraft TP-18*	\$3.40
				1800	5	Soundcraft TPT-18T	\$6.80
				1800	5 3/4	Audiotape 1831*	\$5.00
				1800	5 3/4	Audiotape 1831T	\$6.75
				2400	5 3/4	Reeves TP-24*	\$6.96
				2400	5 3/4	BASF 205-0066	\$8.82
				2400	5 ±	Robins 5A56MS*	\$8.25
				2400	5 3/4	Robins 5A56MTS	\$10.50
				2400	7	American D-24MT	\$7.50
				2400	7	American D-24MS*	\$5.10
				2400	7	Ampex 951	\$7.95
				2400	7	Audiotape 2431*	\$6.50
				2400	7	Audiotape 2431T	\$9.50
				2400	7	Brand Five 5D7M*	\$5.22
				2400	7	Brand Five 5D7MT	\$7.65
				2400	7	Ferrodynamics 5F7M*	\$5.14
				2400	7	Ferrodynamics 5F7MT	\$7.25
				2400	7	Ferrotape 5X7M*	\$8.00
				2400	7	Ferrotape 5X7MT	\$9.85
				2400	7	Irish 198-151	\$7.95

1/2 Mil Tensilized

Description reel size ft. (in.)	Stock No.	Price
2400 7	Irish 251-151	\$9.50
2400 7	RCA 5TM-24	\$8.75
2400 7	RCA V5TM-24	\$6.95
2400 7	Robins 5A7M*	\$8.10
2400 7	Robins 5A7MT	\$10.30
2400 7	Scotch 200-2400	\$9.50
2400 7	Scotch 144-2400	\$7.95
3600 7	American D-30MT	\$9.50
3600 7	American D-36MT	\$10.95
3600 7	Audiotape 3633T	\$11.95
3600 7	BASF 205-0067	\$11.76
3600 7	Brand Five 5D7MS*	\$8.50
3600 7	Brand Five 5D7MTS	\$11.10
3600 7	Ferrodynamics 5F7MS*	\$8.05
3600 7	Ferrodynamics 5F7MTS	\$10.55
3600 7	Ferrotape 5X7MTS	\$13.85
3600 7	Scotch 290-3600	\$11.95
3600 7	Soundcraft TP 36*	\$10.00

* Indicates un-tensitized tape

Low Noise Tape

600 5	Scotch 201 (1 1/2 mil acetate)	\$2.80
600 5	Scotch 202 (1 1/2 mil polyester)	\$2.85
900 5	Scotch 203 (1 mil polyester)	\$4.25
1200 7	Audiotape 1257 (1 1/2 mil acetate)	\$4.30
1200 7	Audiotape 1277 (1 1/2 mil polyester)	\$5.10
1200 7	RCA 15ALN-12 (1 1/2 mil acetate)	\$4.40
1200 7	Scotch 201 (1 1/2 mil acetate)	\$4.40
1200 7	Scotch 202 (1 1/2 mil polyester)	\$5.10

PVC-Based Tape

150 2 3/4	BASF 208-0081 (1 mil)	\$1.05
300 3	BASF 203-0031 (3/4 mil)	\$1.47
450 3 1/2	BASF 203-0032 (3/4 mil)	\$2.44
600 5	BASF 201-0002 (1 1/2 mil)	\$2.48
900 4 1/4	BASF 203-0033 (3/4 mil)	\$3.98
900 5	BASF 202-0013 (1 mil)	\$3.33
900 5 3/4	BASF 201-0003 (1 1/2 mil)	\$3.09
1200 5	BASF 203-0034 (3/4 mil)	\$4.90
1200 5 3/4	BASF 202-0015 (1 mil)	\$3.72
1200 7	BASF 201-0005 (1 1/2 mil)	\$3.75
1800 5 3/4	BASF 203-0037 (3/4 mil)	\$6.00
1800 7	BASF 202-0017 (1 mil)	\$5.42
1800 8 1/4	BASF 201-0008 (1 1/2 mil)	\$8.00
2400 7	BASF 203-0039 (3/4 mil)	\$7.80
2400 8 1/4	BASF 202-0026 (1 mil)	\$9.75
3280 8 1/4	BASF 203-0041 (3/4 mil)	\$13.15

Description reel size ft. (in.)	Stock No.	Price
1800 7	Audiotape 1867 (1 mil polyester)	\$7.35
1800 7	Scotch 203 (1 mil polyester)	\$7.35

High Output Tape

300 3	Audiotape 331T (1 1/2 mil polyester)	\$1.60
600 3 1/4	Audiotape 631T (1/2 mil polyester)*	\$2.95
600 5	American HO-6A (1 1/2 mil acetate)	\$2.25
600 5	American HO-6M (1 1/2 mil polyester)	\$2.65
600 3 1/4	Audiotape 663T (1/2 mil polyester)*	\$2.95
600 5	Scotch 120-600 (1 1/2 mil acetate)	\$2.25
1200 5	Audiotape 1231T (1/2 mil tensitized)	\$5.45
1200 5	Audiotape 1231 (1/2 mil polyester)*	\$3.50
1200 7	American HO-12A (1 1/2 mil acetate)	\$3.50
1200 7	American HO-12-M (1 1/2 mil polyester)	\$4.25
1200 7	Scotch 120-1200 (1 1/2 mil acetate)	\$3.50
2400 7	Audiotape 2431T (1/2 mil tensitized)	\$9.50
2400 7	Audiotape 2431 (1/2 mil polyester)*	\$6.50

Low Print Tape

600 5	Audiotape 651M (1 1/2 mil acetate)	\$2.75
600 5	Audiotape 671M (1 1/2 mil polyester)	\$3.20
1200 7	American LP-12A (1 1/2 mil acetate)	\$4.40
1200 7	American LP-12M (1 1/2 mil polyester)	\$7.70
1200 7	Audiotape 1251M (1 1/2 mil acetate)	\$4.30
1200 7	Audiotape 1271M (1 1/2 mil polyester)	\$5.10
1200 7	Irish 271-151 (1 1/2 mil acetate)	\$4.48
1200 7	Irish 273-151 (1 1/2 mil polyester)	\$5.50
1200 7	Scotch 131-1200 (1 1/2 mil acetate)	\$4.40
1200 7	Scotch 138-1200 (1 1/2 mil polyester)	\$5.10
1800 7	Irish 272-151 (1 mil acetate)	\$7.25

Description reel size ft. (in.)	Stock No.	Price
1800 7	Irish 274-151 (1 mil polyester)	\$7.35
2400 7	Irish 275-151 (½ mil tensilized)	\$9.80

Slow-Speed Recording Tape

600 5	American ST6A (1½ mil acetate)	\$2.65
600 5	American ST6M (1½ mil polyester)	\$3.10
600 5	Ampex 531-13 (1½ mil polyester)	\$2.65
900 5	American STL9M (1 mil polyester)	\$4.25
900 5	Ampex 541-13 (1 mil polyester)	\$3.40
1200 5	Ampex 551-13 (½ mil tensilized)	\$5.45
1200 7	American ST12A (1½ mil acetate)	\$4.40
1200 7	American ST12M	\$5.10
1200 7	Ampex 531-15 (1½ mil polyester)	\$4.25
1200 7	Ampex 541-15M (1 mil polyester)	\$3.50
1200 7	Ampex 536-15 (1½ mil polyester)	\$4.75
1200 7	Ampex 545-15M (1 mil polyester)	\$3.95
1200 7	Soundcraft GTA-12 (1½ mil acetate)	\$4.70
1800 7	Ampex 541-15 (1 mil polyester)	\$6.20
1800 7	Ampex 545-15 (1 mil polyester)	\$6.90
1800 7	American STL18M	\$7.35
1800 7	Soundcraft GTM-18T (1 mil tensilized)	\$7.50
2400 7	Ampex 551-15 (½ mil tensilized)	\$9.50
2400 7	Ampex 556-15 (½ mil tensilized)	\$10.75
2400 7	Soundcraft GTM-24T (½ mil tensilized)	\$11.40

Cassettes (½ mil Tensilized Polyester)

300	Ampex 361	
300	Audio Magnetics AC-60	\$3.20
300	Audiotape AC-60	\$3.20
300	BASF 209-0001	\$3.60
300	Irish 261	\$3.20
300	Norelco C-60	\$2.65
300	Robins C-60	
300	Scotch 271	\$3.20
300	Sony C-60	\$2.25
300	Soundcraft C-60	\$3.20

Description reel size ft. (in.)	Stock No.	Price
450	Audio Magnetics AC-90	
450	BASF 209-0002	\$5.08
450	Norelco C-90	\$3.65
450	Robins C-90	
450	Scotch 272	\$4.76
450	Sony C-90	\$2.95
450	Soundcraft C-90	
600	Audio Magnetics AC-120	
600	BASF 209-0003	\$6.25
600	Norelco C-120	\$4.65
600	Robins C-120	
600	Scotch 273	\$5.34
Cartridges		
150	Audiotape A8 (8-track)	\$3.85
300	Audiotape A4 (4-track)	\$4.15

TAPE TIMING CHART

TAPE SPEEDS

Length in feet	15/16	1-7/8	3-3/4	7-1/2	15
150	32	16	8	4	2
225	48	24	12	6	3
250	52	26	13	7	3
300	64	32	16	8	4
350	1:16	38	19	10	5
375	1:24	42	21	10	5
450	1:36	48	24	12	6
500	1:44	52	26	13	7
600	2:08	64	32	16	8
625	2:13	67	33	16	8
850	3:00	1:30	45	22	11
900	3:12	1:36	48	24	12
1200	4:16	2:08	1:04	32	16
1250	4:24	2:12	1:06	33	16
1500	5:12	2:36	1:18	39	20
1700	6:00	3:00	1:30	45	22
1800	6:24	3:12	1:36	48	24
2000	6:56	3:28	1:44	52	26
2400	8:32	4:16	2:08	64	32
2500	8:48	4:24	2:12	1:06	33
3000	10:24	5:12	2:36	1:18	39
3600	12:48	6:24	3:12	1:36	48

Note: Times are for a single pass through the recorder and should be multiplied by 2 for half-track mono or quarter-track stereo; by 4 for quarter-track mono.

How to Select the Right Microphone



Microphones are classified in two ways—by the pickup pattern (the directions in which it's sensitive to sound) and by the transducer element (the device which converts sound waves into electrical energy). The three major pickup patterns are omnidirectional (equally sensitive to sound from any direction), cardioid (most sensitive to sounds directly in front of the microphone and relatively insensitive to sounds from the mike's rear) and figure-eight (sensitive to sounds from two sides of the mike, insensitive to sounds from the other two sides). Omnidirectional mikes usually are the ones

supplied with new recorders, because of their versatility. They're the best choice for recording business conferences with a single mike, making better tapes with a group, or recording sound effects when there is no background interference.

Cardioid mikes are designed for use when there's background noise you want to suppress or eliminate. They're great for recording on-the-street interviews, eliminating feedback from a public address system or recorder loudspeaker, recording vocal groups in a studio, dictating in a noisy room, recording music or drama during a performance,

a performance, and similar uses. Figure eight mikes generally are intended for such studio uses as interviews (one participant on each side of the mike), instrumental duets, or reducing feedback in difficult situations. If you're planning to record music live, you may consider the use of two or more microphones—several cardioids close up, or a cardioid near the music source and an omnidirectional at the rear of the hall, to add presence to the recording.

The type of transducer used in the microphone helps to determine its price. The least expensive element is a crystal of rochelle salt which is connected mechanically to a vibrating diaphragm. The diaphragm vibrates as it's hit by sound waves. The linkage transmits this motion to the crystal, which generates a varying electrical current. Crystals are cheap and versatile, and capable of wide-range sound reproduction. But they're subject to changes in temperature and humidity, can be cracked if the mike is dropped, and are hard to pair for stereo since no two crystals are exactly alike. Some listeners also claim there's a "crystal sound", which is harsher, harder than that produced by dynamic microphones. Ceramic microphones use an element which in effect is a man-made crystal. These elements are almost identical with crystals, yet have the advantage of uniformity which enables them to be paired for stereo. Dynamic microphones use some variety of electromagnet to produce sound. This may include a magnetized bar moving back and forth in an electrical field created by a coil, two bars linked together, or a fixed bar set inside a moving coil. Dynamics are highly uniform (within a given model), very rugged, quite versatile, produce good sound, and cost somewhat more than crystals or ceramics.

In addition to these, there are several other elements used in microphones which may be used with tape recorders. These include ribbon or velocity mikes (sound waves strike a corrugated thin metal ribbon within the mike), the first high fidelity microphones and somewhat more expensive than other dynamics; carbon mikes, which are inexpensive low-fi mikes intended primarily for voice recording.

You'll find that with the right microphone, your recorder will perform much better the next time you make a live recording. If you plan to do much live recording, you may even wish to assemble your own collection of mikes (prices may tend to dampen your enthusiasm if you get carried away). And if you plan to record stereophonically, you'll need at least one matched pair of good microphones.

Another factor to consider when buying a microphone is impedance. Most home tape recorders have high impedance inputs for mikes (10,000 ohms and up). Thus, you may want to select from among the high impedance microphones listed. The trouble is that high impedance lines tend to lose signal strength and pick up hum the farther they're run. So if your microphone must be more than, say, 15 feet from your recorder, you may wish to consider a low impedance microphone instead (50 ohms or so). To convert low impedance microphones to high impedance use, you'll need a transformer. The transformer is located right at the recorder itself. Between it and the microphone, you can now string as long a cable as you like without fear of signal loss or interference.

Here, then, is a rundown of microphones particularly suited to use with your tape recorder:

Model	Price	Remarks
CRYSTAL OMNIDIRECTIONAL		
Astatic JT 30	\$ 18.40	30-10,000 cps, high impedance, with stand
Astatic 150	\$ 6.50	30-10,000 cps, high impedance, 5 ft. cable
Astatic 200	\$ 19.50	30-10,000 cps, high impedance, base included, 8 ft. cable
Astatic 332	\$ 17.90	30-15,000 cps, high impedance, 8 ft. cable
Claricon 38-011P	\$ 6.95	100-9,000 cycles; high impedance; -52 dB output; on-off switch; for stand or lavalier
Claricon 38-600P	\$ 9.95	50-8,000 cycles; high impedance; -52 dB output

Model	Price	Remarks
Electro-Voice 911	\$ 37.50	High impedance, 50-10,000 cps, on-off switch, 16 ft. cable
Electro-Voice 920	\$ 27.50	60-10,000 cps, head treated for wind and moisture protection, high impedance, 16 ft. cable
Electro-Voice 924	\$ 23.50	Lavalier supplied with neck cord, high impedance, 60-8,000 cps, 18 ft. cable
Lafayette Miniature Crystal	\$.99	Size 1-9/16" x 7/16", can be used as lapel mike or concealed locations
Lafayette Tiny Crystal	\$ 1.95	Miniature, high impedance, 5 ft. cable and stand included
Lafayette Lapel Mike	\$ 1.95	1 5/8" diameter, high impedance, 5 ft. cable, case and clip included
Lafayette General Purpose Mike	\$ 1.95	High impedance, 1 3/8" diameter x 2 1/2" long, 7 ft. cord included
Lafayette Bullet Crystal	\$ 2.95	60-10,000 cps, high impedance, tilting head, 4 1/2 ft. cable
Lafayette Quality Crystal	\$ 3.95	50-10,000 cps, high impedance, 5 ft. cable
Lafayette Universal	\$ 3.95	50-9,000 cps, high impedance, on-off switch, 4 1/2 ft. cable, 5" long
Lafayette Studio Crystal	\$ 4.95	High impedance, contains two crystal cartridges, 4 ft. cable
Shure 710S	\$ 14.00	60-9,000 cps, semi-directional, high impedance, 7 ft. cable, on-off switch
Shure 710A	\$ 12.00	Same as 710S less switch
Shure 715	\$ 8.00	50-10,000 cps, high impedance, 5 ft. cable
Turner 141-11	\$ 12.00	60-10,000 cps, high impedance, 6 ft. cable
Turner 304X	\$ 9.90	60-10,000 cps, high impedance, 12 ft. cable
Turner 908	\$ 4.80	60-8,500 cps, high impedance cable

CERAMIC OMNIDIRECTIONAL

American B213S	\$ 10.05	80-9,000 cps, high impedance, 5 ft. coiled cable, push-to-talk switch
Astatic 151	6.50	30-8,000 cps, high impedance, 5 ft. cable
Claricon 38-028P	\$ 25.95	50-15,000 cycles; high impedance; —55 dB output
Claricon 38-502P	\$ 11.95	Lavalier type; 60-10,000 cycles; high impedance; —52 db output
Claricon 38-504P	\$ 19.95	40-15,000 cycles; dual impedance; —52 dB output; on-off switch
Claricon 38-505P	\$ 19.95	50-15,000 cycles; high impedance; —66 dB output; on-off switch
Claricon 38-506P	\$ 17.95	70-11,000 cycles; high impedance; —77dB output; on-off switch
Electro-Voice 611	\$ 45.00	50-9,000 cycles; hi or low impedance models; —55 dB output; on-off switch
Electro-Voice 715	\$ 13.00	60-7,000 cps, high impedance 5 ft. cable, rugged
Electro-Voice 721	\$ 6.50	100-5,000 cps, high impedance, 5 ft. cable with fold-out stand

Model	Price	Remarks
Electro-Voice 727	\$ 20.00	60-8,000 cps, high impedance, 5 ft. cable, with desk stand
Electro-Voice 727SR	\$ 23.50	60-8,000 cps, high impedance, 5 ft. cable, on-off switch
Knight 4510	\$ 9.50	50-11,000 cps, high impedance, desk stand, 7 ft. cable, floor-stand adapter
Monarch TM-17	\$ 9.80	38-16,000 cycles; high impedance; on-off switch
Monarch TM-26	\$ 8.65	High-impedance; on-off switch; includes adjustable desk stand
RCA SK-30	\$ 30.00	50-14,000 cycles; low impedance; —55 dB output; for hand-held or stand use
RCA SK-31	\$ 31.00	50-14,000 cycles; high impedance; —57 dB output; for hand-held or stand use
RCA SK-45B	\$ 37.00	70-12,000 cycles; dual impedance; —56 dB output at lo-Z; —58 dB output at hi-Z
Shure 275S	\$ 15.00	40-12,000 cps, high impedance, switch, stand adapter, lavalier assembly included
Sonotone CM-10A	\$ 18.40	30-12,000 cycles; high impedance; —56 dB output
Sonotone Studio 70-L	\$ 79.00	40-18,000 cycles; low impedance; —59 dB output
Sonotone Studio 70-H	\$ 79.00	50-15,000 cycles; high impedance; —58 dB output
Sonotone DM 10-100	\$ 24.50	80-16,000 cycles; high impedance (50,000 ohms); —57 dB output; wind-blast screen
Sonotone DM 10-500	\$ 24.50	40-18,000 cycles; low impedance (200 ohms); —58 dB output; wind-blast screen
Sonotone DM 70-200	\$ 27.50	50-16,000 cycles; high impedance (10,000 ohms); —66 dB output; wind-blast screen
Sonotone DM 70-500	\$ 27.50	40-18,000 cycles; low impedance; —59 dB output; wind-blast screen
Sonotone CM-1050WR	\$ 19.95	30-10,000 cycles; low impedance; —56 dB output
Turner 44C	\$ 21.00	60-10,000 cps, high impedance, 12 ft. cable, on-off switch
Turner 304C	\$ 9.90	60-10,000 cps, desk stand and adapter, lavalier clip and 12 ft. cable, high impedance
Turner 707	\$ 7.50	60-10,000 cps, 6 ft. cable, high impedance
Turner 907	\$ 4.80	60-8,500 cps, high impedance, polystyrene construction

DYNAMIC OMNIDIRECTIONAL

Altec Lansing 674A	\$ 50.00	50-14,000 cps, 150/250 ohms, 15 ft. cable and adapter
Altec Lansing 675A	\$ 57.50	50-14,000 cps high impedance, 15 ft. cable and adapter
Altec Lansing 677A	\$ 65.00	70-12,000 cps, 150/250 ohms, 20 ft. cable, neck cord and adapter

Model	Price	Remarks
Altec Lansing 681A	\$ 77.50	50-18,000 cps, choice of low or high impedance, 15 ft. cable, 7 ³ / ₈ " long
Altec Lansing 682B	\$ 90.00	45-20,000 cps, choice of impedances, 15 ft. cable, 7" long
American D-20	\$ 20.00	80-12,000 cps, high impedance, includes desk stand, floor stand coupler and lavalier cord assembly
American D-30	\$ 20.00	100-10,000 cps, high impedance with switch, 16 ft. cable with neck cord and stand
American D-40	\$ 40.00	60-12,000 cps, selectable high or medium impedance, 16 ft. cable with switch
Astatic 335H	\$ 26.50	60-12,000 cps, high impedance, with lavalier
Astatic 788	\$ 79.50	60-13,000 cps, low or high impedance, 20 ft. cable, stand adapter, lavalier assembly included
Astatic 888	\$110.00	50-15,000 cps, low or high impedance, 20 ft. cable, stand adapter, lavalier assembly included
Astatic 988	\$150.00	40-17,000 cps, low impedance, 20 ft. cable, stand adapter, lavalier assembly included
Beyer M-55-A	\$ 25.00	70-16,000 cps, dual impedance, 10 ft. cable and desk stand
Electro-Voice 623	\$ 57.00	60-12,000 cps, low or high impedance, tiltable chrome head, on-off switch, 15 ft. cable
Electro-Voice 624	\$ 45.00	100-7,000 cps, low or high impedance, acoustically treated for wind & moisture protection
Electro-Voice 630	\$ 52.50	60-11,000 cps, high or low impedance, on-off switch, tiltable chrome head, 15 ft. cable
Electro-Voice 631	\$ 82.00	60-15,000 cps, choice of high or low impedance, on-off switch, 18 ft. cable
Electro-Voice 635A	\$ 82.00	60-15,000 cps, low impedance, 18 ft. cable, for broadcast use
Electro-Voice 636	\$ 72.50	60-13,000 cps, low or high impedance, on-off switch, 15 ft. cable
Electro-Voice 641	\$ 35.00	70-10,000 cps, low or high impedance, on-off switch, 15 ft. cable
Electro-Voice 647A	\$ 82.50	70-10,000 cps, low or high impedance, 18 ft. cable, lavalier cord and assembly, 3 ³ / ₄ " long
Electro-Voice 649B	\$105.00	70-8,000 cps, low impedance, 30 ft. cable, lavalier assembly, 2 ¹ / ₄ " long
Electro-Voice 654A	\$100.00	50-15,000 cps, low impedance, 18 ft. cable, 7" long
Knight KN 4520A	\$ 10.85	80-12,000 cps, 3000 ohms and high impedance, with desk stand, lavalier cord, 4 ¹ / ₂ ft. cable
Lafayette Miniature Dynamic	\$ 1.59	1-1/6" diameter x 1/4" thick, 300-5,000 cps, 600 ohms
Lafayette Tie Clip	\$ 2.49	200-5,000 cps, 3,000 ohms, for concealed recording with transistor recorder

Model	Price	Remarks
Lafayette High Impedance	\$ 3.49	60-10,000 cps, high impedance, 6½ ft. cable
Lafayette Vertical Dynamic	\$ 6.95	100-10,000 cps, high impedance, 5 ft. cable
Lafayette PA Dynamic	\$ 7.95	100-15,000 cps, high impedance, 7½ ft. cable, lavalier cord and mike connector
Lafayette Dynamic Recording	\$ 7.95	100-15,000 cps, high impedance, 5 ft. cable, stand supplied
Lafayette Dual Impedance	\$ 9.95	100-10,000 cps, high impedance, 20 ft. cable, on-off switch, mike connector
Lafayette Modern	\$ 9.95	100-10,000 cps, high impedance, 18 ft. cable, on-off switch, wire mesh grille
Lafayette Dual Impedance	\$ 11.95	100-10,000 cps, dual impedance, on-off switch, 20 ft. cable, mike tilttable
Lafayette Slim Omni	\$ 11.95	50-11,500 cps, high impedance, on-off switch, 19½ ft. cable, mike tilttable
Lafayette Deluxe Ball	\$ 13.95	100-10,000 cps, dual impedance, on-off switch, 6 ft. cable
Lafayette Professional	\$ 14.95	80-15,000 cps, high impedance, 8 ft. cable
Lafayette DCD	\$ 19.95	50-15,000 cps, high impedance, separate bass and treble cartridges, on-off switch, 4½ ft. cable
RCA BK-1A	\$ 86.00	50-15,000 cps, low impedance, 30 ft. cable. Pickup pattern can be switched to semi-directional by putting mike in horizontal position. Swivel mounted in base.
RCA BK-6B	\$ 86.00	60-15,000 cps, low impedance, 30 ft. cable, 2½" long
RCA BK-12A	\$ 95.00	60-18,000 cps, low impedance, 30 ft. cable, 1½" long
RCA SK-30	\$ 30.00	60-12,000 cps, low or high impedance, 20 ft. cable, 4½" long
RCA SK-39A	\$ 23.40	60-10,000 cps, low impedance, 25 ft. cable
Sennheiser MD 21	\$ 65.00	50-15,000 cps, 200 ohms or high impedance. Weighs less than 10 oz.
Sennheiser MD 211	\$115.00	40-16,000 cps, 200 ohm impedance, 4¾" x 7/8" diameter. Comes with cable
Sennheiser MD 214	\$110.00	100-10,000 cps, 200 ohm impedance, cable and neck cord supplied. Microphone mounted within outer shell to eliminate external noise
Shure SM 50	\$ 75.00	100-10,000 cps, low or medium impedance, 20 ft. cable and swivel adapter, wind and breath filter
Shure 51	\$ 49.50	60-10,000 cps, triple impedance, 15 ft. cable
Shure 51S	\$ 51.50	60-10,000 cps, on-off switch, triple impedance, 15 ft. cable
Shure 420	\$ 30.00	60-10,000 cps, dual impedance, 20 ft. cable, lavalier cord and clip
Shure 425	\$ 30.00	60-10,000 cps, dual impedance, 7 ft. cable

Model	Price	Remarks
Shure 430	\$ 38.50	60-10,000 cps, dual impedance, 15 ft. cable, push-to-talk switch, swivel adapter
Shure 533SA	\$ 50.00	40-11,000 cps, high impedance, 15 ft. cable & swivel adapter, on-off switch
Shure 533SB	\$ 47.50	40-11,000 cps, low impedance, 15 ft. cable & swivel adapter, on-off switch
Shure 540	\$ 47.95	50-13,000 cps, low and high impedance, 15 ft. cable
Shure 540S	\$ 49.95	50-13,000 cps, low and high impedance, on-off switch, 15 ft. cable, self-adjusting swivel
Shure 560	\$ 42.50	40-10,000 cps, low and high impedance, 18 ft. cable
Shure 561	\$ 32.50	40-10,000 cps, low impedance, 4 ft. cable
Shure 570	\$ 95.00	50-12,000 cps, low impedance, 30 ft. cable, 2½" long
Shure 570S	\$105.00	50-12,000 cps, low impedance, 30 ft. cable, on-off switch
Shure 571	\$ 95.00	50-10,000 cps, low impedance, 30 ft. cable
Shure 572G	\$110.00	50-10,000 cps, low impedance, mounted on 12" gooseneck
Shure 575S	\$ 24.00	40-15,000 cps, choice of low or high impedance, 7 ft. cable, lavalier cord & accessories, stand adapter
Shure 578	\$ 82.50	50-17,000 cps, low-medium impedance, 18 ft. cable, available in matched pairs for stereo
Shure 578S	\$ 90.00	50-15,000 cps, low, medium or high impedance, on-off switch, 18 ft. cable
Sonotone DM 10 Series	\$ 27.50	80-16,000 cps, low or high impedance, 7 ft. cable
Sonotone DM70 Series	\$ 27.50-\$29.50	50-15,000 cps, low or high impedance, 7 ft. cable
Sony F-32	\$ 27.50	Bass cut switch, other features
Sony F-91	\$149.50	Low-medium impedance, 40-20,000 cps, desk stand, case included
Sony F-96	\$ 17.50	High impedance lavalier
Telefunken TD 20	\$ 12.95	
Turner 44D	\$ 45.00	85-15,000 cps, 12 ft. cable, low & high impedance, on-off switch
Turner 58	\$ 57.00	60-13,000 cps, high or low impedance, 25 ft. cable. On-off switch available
Turner 220	\$ 99.00	60-20,000 cps, high or low impedance, 25 ft. cable
Turner 403	\$ 57.00	50-13,000 cps, 20 ft. cable, high or low impedance
Turner 404	\$ 60.00	50-13,000 cps, 20 ft. cable, high or low impedance, on-off switch
University 2000 Series	\$ 44.75	50-14,000 cps, high or low impedance, with stand adapter. Available with on-off switch
University 4000 Series	\$ 93.25-\$109.75	50-20,000 cps, variable impedance, lavalier cord. Also available with swivel adapter, on-off switch, or as lavalier

Model	Price	Remarks
CRYSTAL CARDIOID		
Electro-Voice 951	\$ 54.50	50-11,000 cps, on-off switch, high impedance, swivel base, 15 ft. cable
Shure 737A	\$ 27.60	60-10,000 cps, high impedance, 15 ft. cable
CERAMIC CARDIOID		
Electro-Voice 717	\$ 19.50	100-7,000 cps, high impedance, coiled cord
Electro-Voice 729	\$ 24.50	60-8,000 cps, high impedance, on-off switch, 8½ ft. cable
Shure 245	\$ 35.00	50-7,000 cps, high impedance, 15 ft. cable, swivel adapter
Shure 245S	\$ 37.00	50-7,000 cps, high impedance, on-off switch, 15 ft. cable, swivel adapter
DYNAMIC CARDIOID		
Altec Lansing 678A	\$ 61.00	50-14,000 cps, 150/250 ohms, slip on swivel adapter, 15 ft. cable
Altec Lansing 679A	\$ 69.00	50-14,000 cps, high impedance, slip on swivel adapter, 15 ft. cable
Altec Lansing 683B	\$127.50	45-15,000 cps, 150/250 ohms, 15 ft. cable, swivel adapter
American D-50	\$ 60.00	80-10,000 cps selectable high or low impedance, 6 ft. cable, desk stand and pouch
Astatic 77 series	\$ 72.50 up	30-15,000 cps, impedance selector switch, some models with on-off switch, front-to-back differential 18 db.
Beyer M-64	\$ 50.00	100-10,000 cps, 200 ohm impedance, gooseneck mount
Beyer M-69	\$ 80.00	50-16,000 cps, 200 ohms impedance
Beyer M-80-A	\$ 40.00	50-16,000 cps, dual impedance, 10 ft. cable, desk stand
Beyer M-260	\$ 75.00	50-18,000 cps, 200 ohms impedance, voice and music switch, ribbon design
Beyer M-610	\$ 60.00	50-15,000 cps, 200 ohms impedance
Claricon 38-040P	\$ 21.00	50-15,000 cycles; high impedance; output -53 dB
Claricon 38-045P	\$ 33.00	100-14,000 cycles; low impedance; output -73 dB
Claricon 38-503P	\$ 19.95	50-12,000 cycles; dual impedance; -62 dB output; rear rejection 9 dB; on-off switch

Model	Price	Remarks
Claricon 38-650P	\$ 45.95	50-15,000 cycles; dual impedance; hi-Z output, -59 dB; lo-Z output, -83 dB; triple-mesh windscreen and pop filter
Electro-Voice 627	\$ 60.00	80-11,000 cycles; hi or low impedance models; pop and dust filter; -58 dB output; on-off switch
Electro-Voice 644	\$110.00	Distributed front yields 20 db cancellation rear & sides. 40-10,000 cps, high or low impedance
Electro-Voice 664	\$ 85.00	60-15,000 cps, low & high selectable impedance, 15 ft. cable
Electro-Voice 665	\$150.00	70-13,000 cps, 18 ft. cable, low impedance
Electro-Voice 674	\$100.00	60-15,000 cps selectable high or low impedance, 15 ft. cable. Bass attenuation switch and on-off switch
Electro-Voice 676	\$100.00	60-15,000 cps, selectable low or high impedance, switch controls low-frequency attenuation
Knight 4545	\$ 22.50	70-15,000 cps, dual impedance, 8 ft. cable, shock-mounted element
Knight 4550	\$ 34.50	45-14,000 cps, high or low impedance, on-off switch, 18 ft. cable
Lafayette 3-Way	\$ 6.95	200-10,000 cps, high impedance, 5 ft. cord, stand and lavalier cord supplied
Lafayette Dynamic	\$ 8.95	100-15,000 cps, high impedance, 5 ft. cord and base supplied
Lafayette General Purpose	\$ 10.95	100-10,000 cps, high impedance, on-off switch, 20 ft. cable
Monarch TM-16	\$ 11.90	60-12,000 cycles; high impedance; -62 dB output; on-off switch
Monarch TM-18	\$ 11.55	40-15,000 cycles; dual impedance; on-off switch
Monarch TM-29	\$ 20.60	25-20,000 cycles; dual-cartridge unit; on-off switch; dual impedance
Monarch TM-30	\$ 19.45	Highly directional; dual impedance; over 20 dB sound cancellation at rear and sides above 700 cycles; on-off switch
Norelco D-12	\$ 99.00	40-15,000 cps, low impedance, front-to-back ratio 18 db
Norelco D-19E	\$ 58.00	40-16,000 cps, low impedance
Norelco D-24B	\$150.00	30-16,000 cps, low impedance, base roll-off switch
Norelco D-119ES	\$ 69.00	40-16,000 cps, low, medium or high impedance, on-off switch, 15 ft. cable, stand adapter
PML D44B	\$ 39.95	100-10,000 cps, dual impedance, 30 ft. cable, built-in windscreen
PML RD-36	\$ 89.50	100-15,000 cps, dual impedance, 18 ft. cable, flexible gooseneck
RCA SK-45B	\$ 45.00	100-10,000 cps, dual impedance, 25 ft. cable, designed for indoor use
Sennheiser MD421,HN	\$114.00	100-15,000 cps, medium or high impedance, 16 ft. cable, low frequency attenuator
Shure 330	\$120.00	30-15,000 cps, 20 ft. cable, triple impedance

Model	Price	Remarks
Shure 545	\$ 85.00	50-15,000 cps, dual impedance, 18 ft. cable, on-off switch available as optional extra (model 545S, \$89.95)
Shure 545L	\$ 70.00	50-15,000 cps, low impedance, 20 ft. cable, lavalier type
Shure 546	\$135.00	50-15,000 cps, low & medium impedance, 20 ft. cable, shock-mounted, swivel mount
Shure 55S	\$ 83.00	50-15,000 cps, triple impedance, on-off switch available as optional extra (model 55SW, \$85), 18 ft. cable
Shure 556S	\$135.00	40-15,000 cps, triple impedance, shock mounted
Shure 565	\$ 95.00	50-15,000 cps, dual impedance, 18 ft. cable, built in wind & peep filter
Shure 580SA	\$ 59.00	50-12,000 cps, high impedance, 15 ft. cable, available in matched pairs for stereo, on-off switch
Shure 580SB	\$ 52.00	50-12,000 cps, low impedance, 15 ft. cable, on-off switch
Shure 585SA	\$ 65.00	50-12,000 cps, high impedance, 15 ft. cable, with filter
Shure 585SB	\$ 58.00	50-12,000 cps, low impedance, 15 ft. cable, wind filter
Sonotone CDM 80	\$ 43.50	80-12,000 cycles; high or low impedance; output -61 dB; on-off switch
Sony F 87	\$ 22.50	High impedance, floor stand adapter
Sony F 121	\$ 99.50	70-12,000 cps, low or high impedance, on-off switch, 20 ft. cable
Telefunken TD Stereo	\$ 40.00	Dual cardioid elements for stereo recording
Telefunken TD 11	\$ 24.50	Switch for music and voice recording
Telefunken TD 19	\$ 68.00	
Turner 500 series	\$ 84.00	40-15,000 cps, high or low impedance, 20 ft. cable, on-off switch available. Matched pair available for stereo with windscreens
Turner 600 series	\$ 59.50	50-15,000 cps, high impedance, 12 ft. cable, on-off switch, matched pairs available
Turner 505	\$110.00	40-15,000 cps with bass roll-off, switch, low or high impedance, 20 ft. cable
Turner 510	\$150.00	40-15,000 cps, dual low impedance, 20 ft. cable, wind screen and desk stand supplied
Turner 777	\$110.00	100-15,000 cps, low impedance, 20 ft. cable, rotary on-off switch
University 1000 series	\$119.00 up	30-16,000 cps, triple impedance, available with stand, shock mounting, on-off switch and other features
University 5000 series	\$ 85.95 up	25-20,000 cps, variable impedance, for music or voice recording, available with on-off switch, swivel adapter, wired in cable

Model	Price	Remarks
University 6000	\$ 66.25	50-15,000 cps, low impedance; 15 ft. cable, neck cord and leatherette carrying case supplied, miniature mike
University 8000	\$ 58.25	70-15,000 cps, variable impedance, shock mounted, stand adapter
University 8100	\$ 63.25	70-15,000 cps, variable impedance, shock mounted, on-off switch & adapter
University Attache	\$ 66.25	50-15,000 cps, low impedance, neck cord supplied

RIBBON OR VELOCITY (PRESSURE GRADIENT)

Dynaco 50	\$ 59.95	30-13,000 cps, high impedance, switch provides music, close talk and off positions
Dynaco 53	\$ 69.95	30-13,000 cps, internally-switched matching transformer for low or high impedance, switch for music, talk or off
Dynaco 100	\$ 89.95	30-13,000 cps, medium impedance, phasing and muting switch
Dynaco 200	\$150.00	Dual-ribbon stereo mike. Top section can be rotated 180 degrees with respect to lower section. 30-13,000 cps, medium impedance
RCA BK-11A	\$107.00	20-20,000 cycles; low impedance; -56 dB output; three-position voice-music switch for optimum frequency response
RCA SK-46	\$ 54.95	40-15,000 cycles; dual impedance; -58 dB output at 200 ohms; -60 dB output at 15,000 ohms
Shure 300	\$150.00	40-15,000 cps, triple impedance, 20 ft. cable, 15-20 db difference between sides, front & rear, anti-breath filter
Shure 315	\$ 89.50	50-12,000 cps, 3-position impedance switch, 20 ft. cable, on-off switch available as model 315S
Telefunken TD25	\$ 17.95	

MISCELLANEOUS

Ercona PML 71	\$ 99.50 (Omnidirectional) \$109.50 (Cardioid)	Condensator, omnidirectional, low and high impedance; 40-18,000 cycles; 2-microphone battery power supply (\$49.50) required
Fargram	\$ 89.50	Parabolic microphone, 500-5,000 cps, 24" reflector, 200 ohm impedance, gunsight supplied
Norelco DX11	\$130.00	50-15,000 cps. Built-in reverberation unit and transistorized amplifier. Available low or high impedance.

The portable Concord F-400 a superb stereo tape deck

Combines cassette handling convenience with record and playback performance comparable to some of the finest reel-to-reel units. How? A newly engineered transport mechanism and an electronically-controlled capstan motor that all but eliminate the wow and flutter bugs. Plus narrow gap, flux-field heads for wide range frequency response. Has inputs for recording live, off-the-air, from records or from reel-to-reel tapes, or other program source. And outputs for playback thru external speakers, or thru your own home system power amplifier and speakers.



Operates on batteries as well as AC. So you can also enjoy it away from home. Make live recordings on field trips, get-togethers—indoors, outdoors—anywhere. (Has VU meters, or you can use the automatic record-level control.) Or you can entertain with pre-recorded cassettes, or your own. Has built-in stereo power amplifiers and matched stereo speakers.

The portable Concord F-400 a superb tape recorder

The Concord F-400 is like getting two instruments in one. Under \$180 complete with microphone, patch cords and cassette. Modern solid-state circuitry throughout. Concord Electronics Corporation, 1935 Armacost Ave., Los Angeles, Calif. 90025. Subsidiary of Ehrenreich Photo-Optical Industries, Inc.

A Guide to Stereo Headphones

by Robert Swathmore

Stereo headphones are essential to the serious recordist for both editing and monitoring tapes as well as for private listening. When editing or cueing tape, headphones keep out extraneous noises. For monitoring, it is essential to know what's on your tape. Headphones are the answer. And, when listening to music, only headphones deliver the original recording sound without being altered by the acoustics of your room.

The points to consider when buying stereo earphones are sound, weight and fit. Stereo earphones, like loudspeakers, tend to have their own sound coloration. Therefore, they should be selected only after listening to several different models. The most important thing to listen for is clarity. You should try to pick out individual instruments in an orchestra and watch out for high frequency distortion. Fit is very important because you may want to wear your earphones for hours and if they pinch or squeeze your ears you will be uncomfortable. Unless

you have a good air seal against your ears, you will lose bass response. On some models ear-cushions are washable. This is an advantage since you will be able to remove dirt or saturated skin oils this way. Naturally, the lighter the headset, the longer you can wear it without fatigue. A little practice trying on a few sets of headphones will help determine which fit and weight you want.

Prices for name brand stereo headphones range from \$14.95 to \$99.50 with over 90 per cent of all models falling in the under \$50 range. We believe that a small investment in stereo headphones will bring you satisfaction far in excess of the cost.

The following list includes the models of prime suppliers in the United States. There are a number of stores across the country offering stereo headsets under proprietary labels. These have not been included because of the difficulty of establishing an accurate list price and obtaining full details on them.

Model	Price	Resistance in Ohms	Plug(s)	Remarks
AKG K-20	\$19.50	4-16	3-element	Dynamic element
AKG K-50	\$22.50	4-16	3-element	Dynamic element
AKG K-60	\$39.50	4-16	3-element	Dynamic element
Ampex 140	\$29.95		3-element	Dynamic transducer, 8 ft. cord
Ampex 141	\$39.95		3-element	Dynamic transducer, volume & balance controls, 8 ft. cord
Claricon 85-275	\$21.25	16	3-element	With junction box and selection switch
Clark 100	\$39.50	8	3-element	Dynamic transducer, contains 8 ft. cord
Clark 103	\$39.50	300	3-element	Dynamic transducer, 8 ft. cord
Clark 112	\$44.40	1200	3-element	Dynamic transducer, 8 ft. cord
Clark 200	\$26.95	8	3-element	Magnetic transducer, 6 ft. cord
Clark 250	\$32.00	8	3-element	Volume control, magnetic transducer
Clark 1000	\$85.00	8	3-element	Gold-plated, simulated walnut grain earpieces
Clevite	\$24.95	4-16	3-element	10 ft. cord, foam cushions
Fisher HP-50	\$29.95	12	3-element	Dynamic transducer, polyfoam cushions
Jensen HS-1	\$31.50	8	3-element	Dynamic transducer, 8 ft. cord
Jensen HS-2	\$24.95	8	3-element	Foam cushions, 8 ft. cord
Knight KN876	\$19.95	3-16	3-element	Built-in volume control, polyfoam cushions, dynamic driver, 8 ft. cord
Knight KN878	\$ 9.95	3-16	3-element	8 ft. cord, removable earcups
Koss SP3XC	\$24.95	4-16	3-element	Dynamic transducer, 8 ft. cord, foam pads

Model	Price	Resistance in Ohms	Plug(s)	Remarks
Koss SP5SM	\$24.95	4-16	3-element	Built-in stereo-mono switch
Koss SP5NS	\$24.95	4-16	2 mono	Dynamic transducer, 8 ft. cord
Koss K6	\$26.50	4-16	3-element	Dynamic transducer, foam-filled cushions
Koss ESP6	\$95.00	4-16	3-element	Electrostatic element, fluid-filled cushions, fitted carrying case.
Koss KO727	\$34.95	4-16	3-element	Coiled cord, padded cushion
Koss PRO-4A	\$50.00	4-50	3-element	Liquid-filled pads, mike boom attachment
Koss KR2+2	\$34.95	300 stereo or 600 mono	2 mono	Sold with microphone for language lab use, second plug is for microphone
Koss KR 1492	\$24.95	300 stereo or 600 mono	mono	Dynamic driver, language lab use
Lafayette F767	\$11.88	8		Foam rubber ear cushions
Lafayette F770	\$17.95	8 ohms	3-element	Foam rubber ear cushions, dynamic speakers
PML D42	\$24.95	200		Supplied with removable ear cushions
Sansui SS-2	\$19.95	8	3-element	6½ ft. cord, moving coil speaker
Sharpe CM-4	\$14.50	8	3-element	6 ft. cord, dynamic drivers
Sharpe HA-9	\$24.95	8	3-element	Dynamic element
Sharpe HA-10 Mk II	\$45.00	8	3-element	Dynamic reproducer, liquid-filled
Sharpe HA-770	\$100.00	8	3-element	24-karat gold finished, liquid filled
Sharpe HA-10A	\$35.95	8	3-element	6 ft. cord, dynamic reproducer, liquid fill
Sharpe GA-1CB	\$43.50	100	3-element	8 ft. cord, dynamic reproducer, liquid fill
Sharpe HA-10C	\$43.50	8	2 mono RCA	8 ft. cord, dynamic reproducer, liquid fill
Sharpe HA-10LM	\$99.50	4		Headset-microphone combination
Sharpe HS-10LM	\$64.50	4		Headset-microphone combination
Sharpe HA-660	\$60.00	50 or 500	3-element	Separate volume controls, liquid ear seal
Sharpe HA8A		8	3-element	Vinyl removable ear seals, dynamic drivers
Sony DR-3A	\$22.50	8	3-element	
Sony DR-3C	\$27.50	10,000	3-element	
Stanford MB-K61	\$14.95	16	3-element	fluid-filled cushions, 8 ft. cord.
Stanford MB-K660	\$65.00	16	3-element	fluid-filled cushions, 8 ft. cable
Superex ST-C	\$19.95	4-16	3-element	Dynamic transducer, 7 ft. cord
Superex ST-PRO-B	\$50.00	4-16	3-element	Dynamic woofer, ceramic tweeter
Superex ST-M	\$29.95	4-16	3-element	Dynamic woofer, ceramic tweeter
Superex ST-PRO-7	\$50.00	4-16	1 mono phone	Dynamic woofer, ceramic tweeter
Superex ST-M7	\$29.95	4-16	1 mono phone	Dynamic woofer, ceramic tweeter
Superex ST-S	\$24.95	4-16	3-element	Dynamic reproducer, 7 ft. cord
Superex ST-S7	\$24.95	4-16	1 mono phone	Dynamic reproducer, 7 ft. cord
Superex ST-S-U	\$31.95	4-16 or 15,000	3-element	Switch controls impedance, 7 ft. cord
Superex ST-SU7	\$31.95	4-16 or 15,000	1 mono phone	Switch controls impedance, 7 ft. cord
Superex SX 800	\$21.95	4-16	3-element	Dynamic reproducer, light weight
Superex SX 807	\$21.95	4-16	1 mono phone	Dynamic reproducer, light weight
Superex SX 300	\$14.95	4-16	3-element	Dynamic element, 7 ft. cord
Superex SX 307	\$14.95	4-16	1 mono RCA	Dynamic element, 7 ft. cord
Superex SX 700	\$22.95	4-16	3-element	Dynamic driver, 7 ft. cord
Superex SX 707	\$22.95	4-16	1 mono RCA	Dynamic driver, 7 ft. cord
Superex SX 740	\$24.95	4-16	3-element	Separate volume controls, 7 ft. cord
Superex SX 357	\$16.95	50,000	1 mono RCA	Ceramic element, 7 ft. cord
Superex SX 350	\$18.95	50,000	3-element	Ceramic element, 7 ft. cord
Superex SX 750	\$20.95	50,000 or 4-16, 600, 2,000	3-element	Ceramic element, 7 ft. cord foram cushions
Superex SW-1	\$19.95	4-16	mono	7 ft. cord, dynamic reproducer
Telex Adjustatone	\$15.95	3-16	3-element	Reversal of phones adjusts stereo perspective
Telex Serenata	\$59.95	3-16 or 600	3-element	Knob adjusts ear pressure, detachable 8 ft. cord
Telex ST-10	\$24.95	3-16	3-element	8 ft. cord, foam rubber cushions
Telex ST-20	\$29.95	4-16	3-element	Knobs control balance of each speaker, 8 ft. cord
Telex ASH-1	\$79.50	(note)	2 mono	Built-in battery-operated amplifier permits direct listening from tape head, tuner or stereo cartridge
Telex Combo	\$19.95	4-16	3 element	3½" speakers, 8 ft. cord, removable foam-filled cushions
Telex Encore	\$ 9.95	8	3-element	Removable foam-filled cushions, 8 ft. cord

where fine recordings are made,



you'll find koss esp-6 electrostatic stereophones*

Now that Koss Electronics has developed Electrostatic Stereophones, it would be silly for recording studios, broadcasting stations, and sound stages to use anything else to monitor recordings. It's as simple as this: the new Koss ESP-6 Electrostatic Stereophones reproduce 9 of a possible 10 octaves the human ear can hear. That's twice as much sound as any other sound reproduction system.

How? That's simple, too. The ESP-6 employs principles of electrostatics formerly limited to very large, high-priced speaker systems like the impeccable Koss-Acoustech X system. Only now, since Koss engineers developed a method of self energizing elements, is it possible to employ electrostatics in tiny units. If you're interested in details on "the only practical way" for professionals to monitor recordings, write for complete specifications and free technical article, "An Adventure in Headphone Design."

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stereophones*
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and individually
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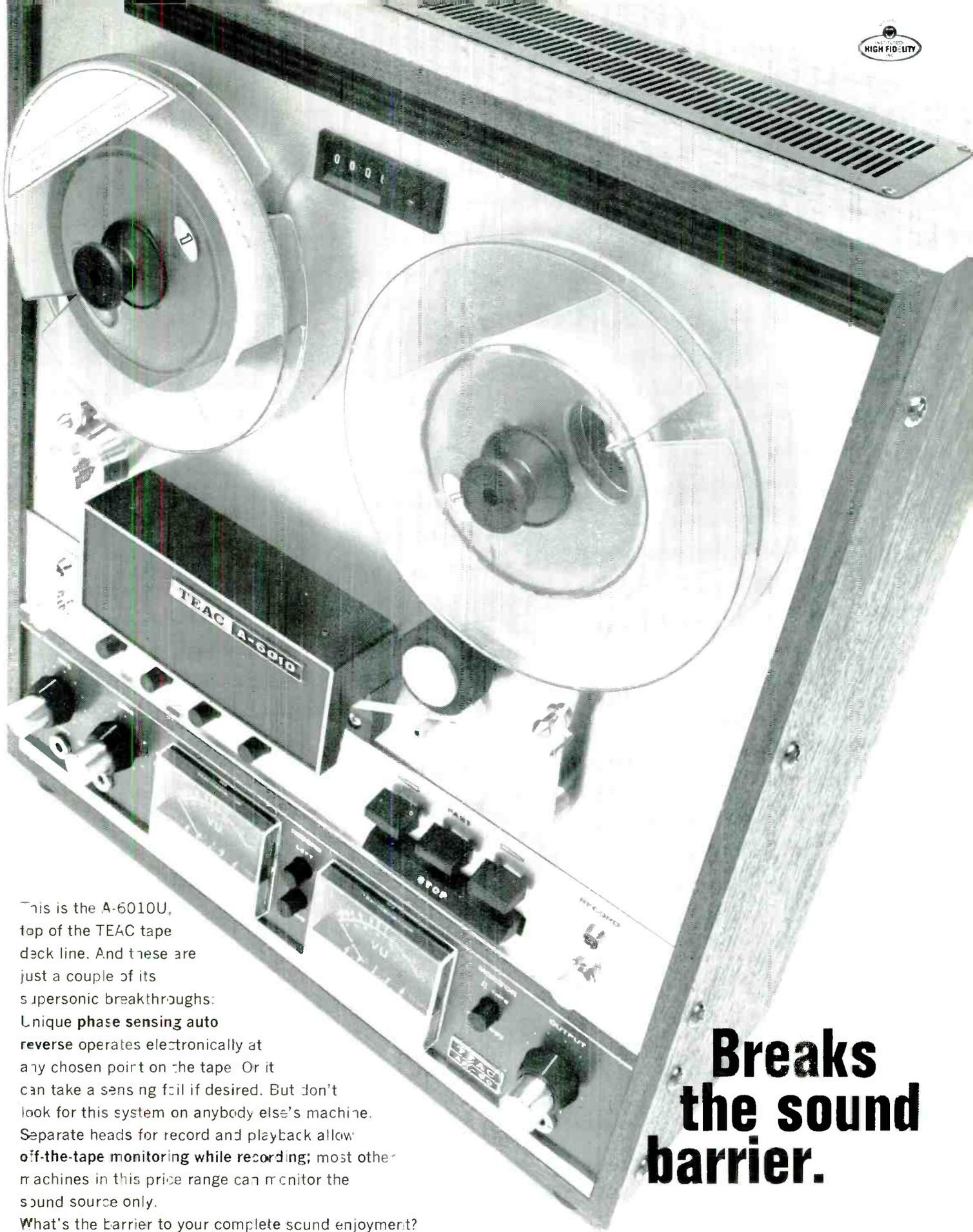
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*Patents applied for

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This is the A-6010U, top of the TEAC tape deck line. And these are just a couple of its supersonic breakthroughs: Unique **phase sensing auto reverse** operates electronically at any chosen point on the tape. Or it can take a sensing fail if desired. But don't look for this system on anybody else's machine. Separate heads for record and playback allow **off-the-tape monitoring while recording**; most other machines in this price range can monitor the sound source only. What's the barrier to your complete sound enjoyment? Chances are, TEAC has broken that, too.

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barrier.**

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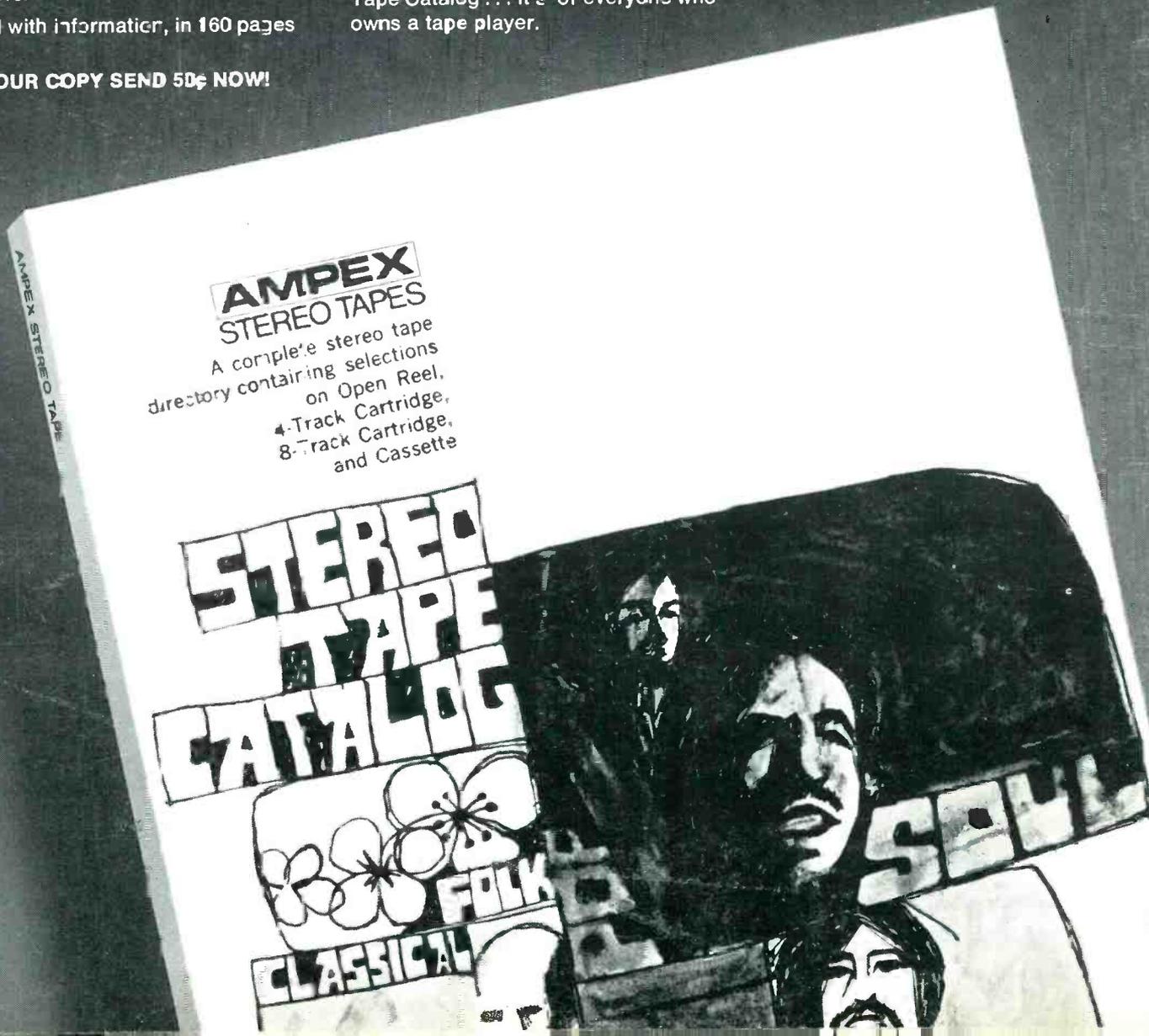
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VOLUME 17 NO. 2

tape Recording

SELF-CONTAINED
INTERVIEWS

THE DAY THE
RUSSIANS
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Model 627 Cardioid Dynamic Microphone
\$63.00 List*



Model 631 Omnidirectional Dynamic Microphone
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Both the 627 and 631 are dynamic microphones, for ruggedness, dependability, and smooth, peak-free response. And both are housed in tough, die-cast bodies finished in your choice of satin chrome or matte satin nickel finish.

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Inside, the design takes full advantage of the E-V "nesting" principle to offer outstanding protection against shock to the element. And a viscous vinyl cushion cuts down on mechanical noise while it guards the delicate moving assembly.

Diaphragms are of exclusive E-V Acoustalloy[®], and are protected by a 4-stage acoustic filter inside the microphone that stops "pops" and blasting while it traps dirt and foreign particles.

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But while these two microphones have many essential features in common, they differ significantly in operation. The Model 631 is omnidirectional, with natural, wide-range pickup from any angle. Specially designed so that performers can work as close as they wish without noise or distortion.

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New Uniseal[™] Switch

Both models offer an on-off switch, but the

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OR
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A high-intensity lamp priced at \$7.50
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another model priced at \$259.50

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The stereo amplifier kit priced at \$64.95 was judged better in overall quality than a similar unit priced at \$99.95, and was rated a "Best Buy." (Possible saving: up to \$35.00.)

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... a stereo tape deck priced at \$299.50 was judged better in overall quality than another model priced at \$399.95 and was rated a "Best Buy." (Possible saving: up to \$100.45.)

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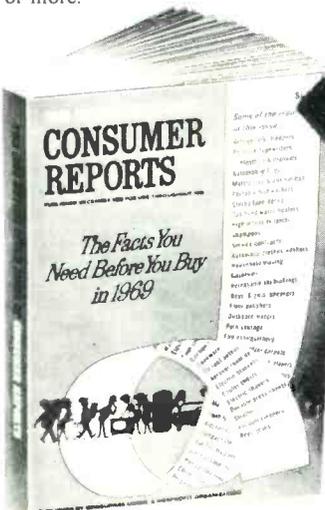
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tape

recording

FEB., 1969

VOLUME 16, NO. 2

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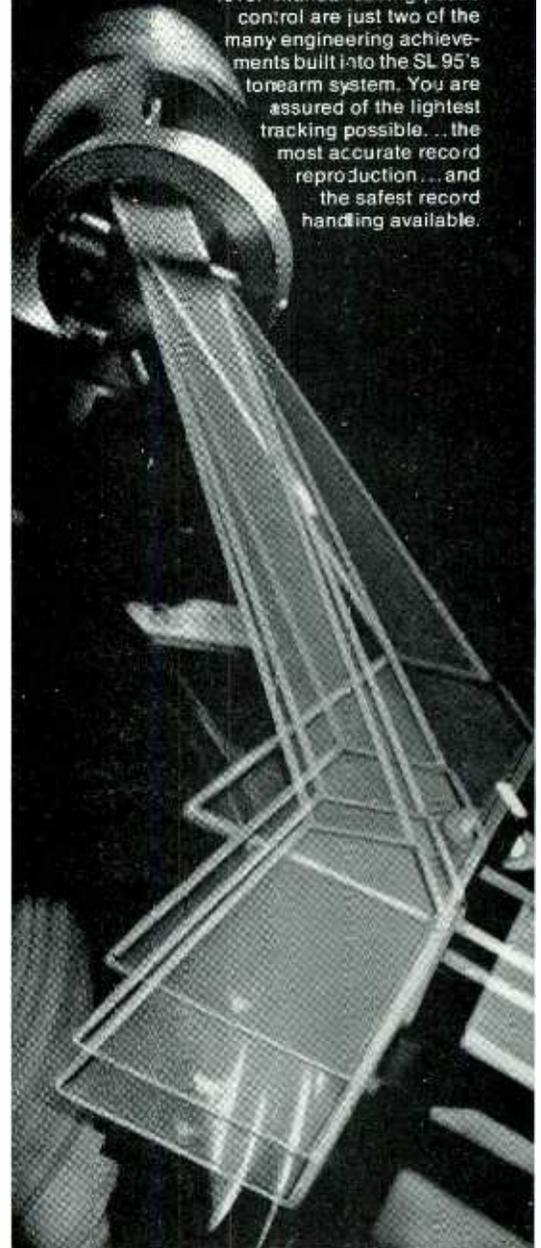
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a strong arm to lean on

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THE DAY THE RUSSIANS TOOK PRAGUE

*Prague workers
woke up one morning
to find this
lineup of Soviet
tanks in side
street near old town
square. This
picture was made from
private apartment.*



When I went to bed on the night of Tuesday, August 20, 1968, I was tired. I had spent a day visiting art galleries and an evening at a coffeehouse with a group of other students. Several of us from Mount Holyoke had spent the summer in Europe, seeing the country, meeting other young people and learning something of the culture of the countries we visited. As the end of August approached, we began to think longingly about not having to do our laundry in sinks in our hotel rooms any more, and of getting an old-fashioned hamburger with onions and a coke for lunch.

I had spent that Tuesday with two British girls we'd met in Paris doing the art galleries, while other members of our group (including a couple of French girls and some boys from the University of Pennsylvania) had gone shopping in the Old Town. For we were in Prague—my first venture behind the Iron Curtain, and an eye-opening experience. We hadn't been in Prague very long, for example, before we met several Czech students who wanted to practice their English on us. They had taken us sightseeing; showed us the pleasant, relaxing walks along the banks of the River Moldau,

by Marijane Maher



and even taken us to several of the coffeehouses and political cabarets which had blossomed under the new regime of Alexander Dubcek.

Besides a Kodak Instamatic, I had with me a Sonymatic cassette recorder I had received last Christmas. I asked Jan, one of the boys we'd met, if it would be all right to record some of the political songs. "By all means," he laughed, "though I don't think you'll be able to understand them." We had a ball at the coffeehouse, in the cellar of one of the fairytale buildings which makes up the Old Town. At the end of

each song, Jan, in pretty good English, would translate the lyrics. Some of the humor was too specialized and too topical for me to understand, but it was pretty clear that the Czechs weren't afraid to criticize inefficiency and bad planning in their government, and to make jokes at the expense of the Russians.

We called it a day at about 10 P.M. Jan and several of the other students rode the little trolley along what once was Stalin Avenue to the Hotel Flora, where we were staying. The Flora was neither the most central nor the most comfortable hotel in Prague, but it was better

Jan started taping as the soldier tried to indicate that the Russians meant no harm

than some of the student hotels we'd patronized in Vienna and Paris.

Gloria, my traveling companion, and I had asked for a room with bath. The Flora gave us one, all right—a comfortable bedroom with a small sitting room and a chamber off to one side containing a bathtub. The toilet, the student who carried up our luggage had explained, was down the hall. We soon dis-

covered that the bathtub was connected to the cold water system only—and when I pulled the plug after trying it, the contents simply ran out onto the floor. I discovered our first morning that if you want to beat the Russians and other Eastern Europeans staying at the Flora to a washbasin and cubicle in the public toilet, you've got to get up pretty early. Slavic women began convening there before six A.M. and

Thousands of students were already on hand when this Soviet tank rumbled into Wenceslaus Square in the heart of Prague. By this time, windows in the National Museum had been shot out.



continued to hold shop meetings until I gave up for breakfast shortly before 9.

Anyway, on the night of August 20, I was tired. I remember Jan and his friends at the coffeehouse had congratulated themselves on the way Dubcek had stood up to the Russians at a meeting the month before at the border village of Cierna nad Tisou. "We are going to find our own way," Jan had said. "For years, the Russians have been getting the best our industry could provide, and the Americans have been trying to make us capitalists. Dubcek is making life better for everybody without any advice from either the Russians or the Americans."

I reflected on the activities of the day and dozed off. Sometime during the night, I awoke briefly, to hear planes droning overhead. I rolled over and went back to sleep.

The next morning the Kaffee Klatsch in the ladies' room was buzzing with excitement. Conversation was in hushed tones, and none of it was in English. I hurried back to my room and got dressed. As I glanced out the window, I noticed tanks and troop carriers rumbling down the avenue toward Wenceslas Square.

In the lobby, Jan and a friend of his, Emil, broke the news: the Russians had invaded Czechoslovakia and were setting up tanks in Wenceslas Square. Now Wenceslas Square is a sort of Times Square and Main Street rolled into one. At one end is the National Museum, and along its sides are most of the city's important hotels, theatres and biggest department stores. It was in Wenceslas Square that students and intellectuals had sold their newspapers since Dubcek had lifted censorship early in the

year, and in the basements of some of these buildings were the most popular and most outspoken of the coffeehouses and cabarets.

I ran back up to our room to get my camera and tape recorder. I stuffed my pockets with blank cassettes and films and rejoined the boys. The trams weren't running, so we hiked almost a mile alongside the troop carriers which streamed into the city.

I couldn't believe my eyes when we rounded the corner behind the National Museum. A number of the windows of that beautiful building were broken. At strategic spots where yesterday pedestrians had waited to board tramcars, tanks were pulled up. Students, who had thronged through the square the day before were turning cars on their sides and building barricades of junk. As a tank pulled in from a side street, an 18-year-old pried loose a cobblestone and hurled it. It rattled harmlessly off the armor plating, and the tank bore down on the student. Friends grabbed him just in time.

"Get this," Jan shouted over the racket. I began snapping pictures like crazy. We made for one of the barricades, not 20 feet from the end of a Soviet tank gun. Students behind the barricades started taunting the soldiers in the tank in Russian (I was amazed to find that it's not unusual for a Czech student to speak two or three languages—English, German or Russian—in addition to his own). One of the soldiers appeared above the conning tower—a Mongol not much older than the kids on my side of the barricade. Jan grabbed the recorder and started taping as the soldier tried with sign language to indicate that the Russians meant

Resistance stemmed in part from a tape recorded in the palace and smuggled past the Soviets.

no harm and had come as friends. It quickly became evident that neither he nor his men spoke Czech—in fact, they didn't even speak Russian. A girl darted out from nowhere with a can of paint and daubed "Russians Go Home" on the side of the tank. The Mongol aimed his pistol at her. She darted away.

Emil, whose English wasn't as good as Jan's, explained that he had work to do. "His best friend is on the staff of *Svobodny Legalni*, one of the most outspoken of the newspapers." Later that day, we saw Emil trying to sell copies of the newspaper to Russians who obviously couldn't read the scornful attacks on them. Before we left Wenceslas Square, I saw teenagers jam tin cans down the barrel of a Russian tank. I saw several young people lie down in front of a tank and get up only when it became evident that the tank would roll over them. In another part of the city, I saw and recorded kids setting a troop carrier afire by taking the cap off the gas tank and stuffing a burning rag into it.

Incredibly, in one of the parks on the way back to the hotel, I saw Czechs pasting the gatefold from an old issue of *Playboy* across the visor of a Soviet tank, thus obscuring its view. "The Russians have abused our hospitality, now perhaps they are inside their tank abusing themselves," one boy quipped. But the most incredible thing of all was yet to come.

I had brought my recorder to capture the sounds of Europe and to record my impressions of the places I visited. As I sat in my hotel room that afternoon, I realized I had a pocketful of cassettes of sounds I never expected to hear. The question was how long would the Russians put up with this harrassment before cracking down? And what would they do about

Americans staying in Prague? When I went down to dinner that night, I was scared.

Jan and Emil came round and invited me to the home of a friend. By the time we got there, there were more than 20 people crowded into a rather small living room, with people coming and going constantly. One girl brought news that the farmers were stopping the tanks by sticking pitchforks in their tracks. A boy who'd just arrived from Ceske Budejovice said that all the road signs had disappeared—and at some intersections the way out of the country had been marked, "To Moscow." The rumors started flying—and perhaps the most interesting was that there would be a telecast at 10 P.M., and that President Svoboda would speak to the nation.

Since President Svoboda had been trapped in Hradcany Palace, high on a cliff above the city all day long by Russian troops, some of the kids believed he might be ready to capitulate. But when the voice of the President came on the radio at 10 P.M., Jan translated part of the speech, "There is no question of our turning back. The program of the Communist Party and of the Government expressed the vital interests of the Czechoslovak people. Do not lose faith. We must remain united in our struggle for a better life for our country." The audience in that small room cheered. Emil explained that the President had recorded the speech on a tape recorder in the Palace and that the reel of tape had been smuggled out of the Palace under the noses of the Soviets and taken to the headquarters of the underground radio, set up in a not-yet-completed apartment building.

"We may need your tape recorder," Emil told me. "We want to document all of this."

I asked who "we" were. Most of the people from Czech Radio, it seemed, had moved into their temporary headquarters after the Russians had occupied the main television and radio studios. They carried with them all the equipment they could make off with, and there was a need for tape recorders to be used by on-the-spot reporters.

No sooner had we finished listening to President Svoboda than somebody switched on the television set. There on the screen was Kamila Mouskova, who is the Czech equivalent of Walter Cronkite, reading the news and introducing film shot that day in the streets by Czech camera crews. There were some of the scenes I'd witnessed, plus some shooting in Bratislava and a pitched battle at the television studios. In a corner, somebody laughed. "There is a station called Radio Vltava which claims that these people are imposters," a girl said. "The announcer speaks Czech about as well as I speak English, but he claims that Radio Vltava is the legitimate voice of Czechoslovakia and the people on television aren't who we know they are."

By the end of that first day, Radio Prague was in business at its normal spot on the dial with student broadcasts, newscasts by regular announcers and eyewitness reports plus speeches by Czech leaders, all urging caution and promising not to sell out the liberal reforms. "We have dozens of unmanned transmitters all over Prague," Emil told me. I don't know where they are, and I don't know where the broadcasts originate from." But Emil did know that much of the programming was being produced literally under the eyes of the Russians on tape recorders like mine. Then boys on bicycles

whisked them off to transmission points. If it weren't for the tape recorder and the quick thinking of the Czech radio and television technicians, I think it's safe to say that resistance might have ended that first day. Emil seemed to know somebody on just about all of the media—he sold his newspapers, helped friends print and pasteup crude posters, was involved in delivering the clandestine tapes, and knew where the television studios were ("a friend of mine is the engineer.")

On the morning of the 22nd, I got an urgent call from the American Embassy. They seemed more worried about us than we were, and urged us to pack up and make for the border. The young man I spoke to promised that a car would call for us at our hotel that afternoon and drive us to the border crossing at Znojmo, where we could get transportation to Vienna.



When Jan showed up later in the morning, I told him the news. "I'm very sorry you have to go," he said, "but perhaps it will be safer for you." Strangely enough, I was supremely unconcerned about my own safety at that point, although we had heard stories about the Russians opening fire on youngsters who pressed them too far. And I had a sneaking desire to stay and see how it would all come out—whether kids my age armed only with bits of paper, tape recorders and a sense of being in the right could prevail over tanks and guns. In the crazy mood that prevailed in Prague on August 22, it just seemed possible.

In any event, shortly after lunch a battered Chrysler pulled up at the front door of the Flora, and we three girls piled in. There were already two of the U. of P. boys inside. It was a bit crowded at first, but traffic, never a problem in Prague, seemed nonexistent that day. As we got to the outskirts, we passed a roadblock stopping traffic coming into Prague, but the Czech guards simply waved traffic going out on its way. Coming toward us seemed to be a constant stream of Russian trucks, each bearing a big red star and painted olive green. We soon discovered that the stories about removal of road and directional signs was no joke. One of the first towns we should have passed through was Ricany. On the railroad station and at the main points of town, somebody had removed the signs and replaced them with impromptu signs reading, in red paint, "Dubcek." This was the first town of Dubcek we passed through; the other was about 50 miles from the Austrian border and, according to our map should have been Jihlava. We found a Svoboda where Stoky should have been and a Cernik where the

map indicated a town named Habry. It was very confusing, and even when our driver explained to Czech policemen who we were, the directions we got were confusing.

From Prague to Znojmo is a distance of perhaps 150 miles. In a country which has no speed limits and no traffic jams it should be possible to make the trip in about 3½ hours. That day it took us from about 1 P.M. to sunset, because of the difficulty of finding our way, and because of Russian convoys coming the other way. As we got closer to Austria, we found ourselves part of a convoy heading out of Czechoslovakia.

What surprised me is that most of the checks of traffic were made by Czech police, without any help or advice from the Russians. It wasn't until we approached the border crossing that we noticed Russians in any authority. The Czech border guards seemed to be letting everybody out who wanted to leave, but a Russian officer had a good look in every car which passed him. When it came our turn, we had to walk across the border because the car had to return to the Embassy in Prague.

The Russian officer spotted my camera and tape recorder. His English was nonexistent, but the point he seemed to be making was that the tape and film shouldn't leave Czechoslovakia. The Czechs on duty listened politely, then asked me in German if I'd mind leaving a few cassettes and a few rolls of exposed film behind. I hated to give up the film—but thanks to the Czech officer who winked at me, I was able to get out with most of my recordings by simply leaving a couple of unrecorded cassettes with him.

It was a summer vacation to remember.

THE CONCERTO ON TAPE

continued from last issue

And now for the romantics—Chopin, Liszt, Schumann, Greig, all contributing one or more major works to the concerto repertoire. Here the couplings among various composers on a single tape ran rampant. In this period, the serious collector can easily end up with several different recordings of the Schumann A Minor Piano Concerto.

Playing the Schumann, we find Leon Fleishcer, George Szell and the Cleveland orchestra (EC 812) with the Grieg A Minor Piano Concerto on the B side. Fine, you say, these are very logical pairings, since they are both basic works. But what happens when you've first purchased the Columbia MQ 707, because you happen to like Serkin? Here we have the Schumann piano concerto with a shorter concerto work, the Schumann *Konzertstück* and a few other items.

We have something the same situation with the Dvorak Cello Concerto, since this is coupled with his Violin Concerto in the DGG. Edith Peinemann is violin soloist with the Czech Philharmonic Orchestra conducted by Peter Maag. Miss Peinemann also plays Ravel's *Tzigane*. On the flip side is Pierre Fournier playing Dvorak's Cello Concerto with the Berlin Philharmonic conducted by George Szell. This is an excellent recording all around, and the Ampex engineers have done an excellent duplicating job. (DGK 9120). But in the same Ampex catalog we find a Mercury tape (STC 90303) featuring the Dvorak Cello Concerto and Max Bruch's "Kol Nidrei." Here the cellist is the incomparable Janos Starker with Antal Dorati and the London Symphony Orchestra. If you are a Starker fan, this tape is a must.

Franz Liszt comes in for his share in this

period with his Piano Concertos nos. 1 and 2. It's especially important to pair the two concertos since this frees you from the need of duplicating them on unfortunate couplings with other tapes. Philips/Ampex PTC 900000 features Sviatoslav Richter on the piano and the London Symphony Orchestra conducted by Kiril Kondrashin—an excellent job all the way around and the most logical coupling we've seen.

If we seem to have left out Mendelssohn, hold on just a minute, he's coupled with Tchaikovsky in almost every recording, and we'll cover those very soon. But before we start with Tchaikovsky, let's look at the legacy of Johannes Brahms, a legacy full of musical riches. First is his Violin Concerto represented by an excellent recording with Isaac Stern and the Philadelphia Orchestra, Eugene Ormandy conducting, on Columbia MQ374. Angel Y2S3664 with Nathan Milstein, the Philharmonic Orchestra and Anatole Fistoulari, gets the entire work on side A. On the flip side is the Beethoven violin concerto, same violinist with Eric Leinsdorf conducting. On Deutsche Grammophon (No. 8930C) Christian Ferras is soloist with the Berlin Philharmonic, Herbert von Karajan conducting.

Moving to the Brahms piano concertos, there's an excellent reading of the Concerto no. 1 in D Minor by Leon Fleisher with George Szell conducting the Cleveland Orchestra. This is Epic EC 802. The First Piano Concerto—a very early work—is not performed very often and really does not represent Brahms at his best. The Second Concerto is much brighter and more significant, written much later in his life. It violates some "basic principles" with

its four movements instead of the traditional three. One of the best recorded versions is RCA FTC 2055 with Sviataslov Richter at the piano and Eric Leinsdorf conducting the Chicago Symphony Orchestra. Other readings of this concerto include a dandy one by Vladimir Ashkenazy with the London Symphony Orchestra conducted by Zubin Mehta. This is London 80206L.

A gem of a work that isn't given as much importance as it deserves is the Brahms Double Concerto. The problem is substantially the same as it is with the Beethoven triple concerto—getting together more than one solo artist of comparable technical capability at the same time. DGG/Ampex features Wolfgang Schneiderhan on the violin, and that cello genius Janos Starker, backed up by the Berlin Radio Symphony Orchestra conducted by Ferenc Fricsay.

Next on the list is St. Saëns—a difficult subject at best. His career spanned so many years, it's hard to place him chronologically, but he was a romantic, and we'll treat him as such. An excellent recording of his Violin Concerto no. 3 in B Minor is on Philips/Ampex PTC 900061, played by Arthur Grumiaux and the Lamoureux Orchestra conducted by Manuel Rosenthal. It's unfortunate that the pairing is with a very unobtrusive and unimportant work—the Violin Concerto no. 5 in A Minor by Henri Vieuxtemps. How much better it would have been to couple some of St. Saëns' other violin works with this excellent reading of the B minor!

In a Columbia release (MQ788), Philippe Entremont, the Philadelphia Orchestra, conducted by Eugene Ormandy, perform two St.

Saëns piano concertos—no. 2 in G Minor, opus 22 and no. 4 in C Minor, opus 44. Both performances and recordings are excellent and this certainly is a very worthwhile tape.

A couple of gems of the concerto repertoire are Felix Mendelssohn's First in G Minor and Second piano concertos in D Minor played by Rudolph Serkin with the Philadelphia Orchestra and Eugene Ormandy (MQ 308).

Another Mendelssohn of note is the very popular Violin Concerto in E Minor. It is unfortunately coupled with the Prokofief G Minor Violin Concerto on an RCA release (FTC 2046). It's played well by Heitfetz with the Boston Symphony Orchestra conducted by Charles Münch. This pairing is about as far apart as you can get in the "basic" library. Another E Minor Violin Concerto tape is coupled with Tchiakovsky's Violin Concerto on Columbia MQ 742. Soloist is Zino Francescatti with Thomas Schippers conducting the New York Philharmonic for the Tchiakovsky and George Szell with the Cleveland Orchestra for the Mendelssohn. This is a rare tape—the pairing is for the basic library material, and the performances are quite good. While we're talking about Tchiakovsky, a new recording of his Piano Concerto no. 1 by Misha Dichter with the Boston Symphony Orchestra conducted by Leinsdorf, has been released by RCA (TR3-5026). Strangely, this double-length tape also contains solo piano works by Brahms and Stravinsky which in themselves are fine, but are really a poor coupling with the Tchiakovsky concerto.

Columbia lists two seldom-heard Tchiakovsky piano concertos, nos. 2 and 3, on MQ 795. The artists are Gary Graffman, the Philadelphia Orchestra and Eugene Ormandy. These are not exactly basic repertoire items and really would be more of interest to the esoteric music lovers. The no. 3 is heard as a ballet score every so often.

This period is a strange potpourri. We're treated to works by Edouard Lalo—his *Symphonie Espagnole* opus 21, played by Ruggiero Ricci with Ernest Ansermet and the Suisse



Romande Orchestra is backed by the Sibelius Violin Concerto in D Minor, again by Ricci, supported by the London Symphony Orchestra conducted by Olvin Fjelstad. This London/Ampex release is no. LCK80046.

20th Century

Mozart is coupled with Richard Strauss and in several horn concertos that fill a double length slow-speed tape. The fabulous Dennis Brain plays the solo horn in this Angel release (Y2S3669) and Herbert von Karajan shares the conducting privileges with Wolfgang Sawalisch with the Philharmonic Orchestra.

As we turn the corner of the century we find Rachmaninoff holding forth with many

well-known and frequently-heard piano works. His Rhapsody on the Theme of Paganini holds the key position in a collection of works played by Leonard Pennario with the Boston Pops and Arthur Fiedler. This RCA tape (FTC 2145) also contains César Franck's Symphonic Variations and the fabulous Scherzo by Henri Litolff.

Other Rachmaninoff favorites include the First Piano Concerto, coupled with the Prokofieff, played by Byron Janis with Kiril Kondrashin and the Moscow Philharmonic. This Mercury/Ampex release is no. 90300C. The Rachmaninoff Second Piano Concerto is a real feast since this is such a favorite to so many. Once again, Byron Janis is featured, this time with the Minneapolis Symphony Orchestra and

Antol Dorati on Mercury STC90260. Coupled with this are two Rachmaninoff Preludes including the popular C Sharp Minor Prelude. Other recordings of the Rachmaninoff Second include one by Gary Graffman with Leonard Bernstein conducting the New York Philharmonic. This Columbia release (MQ657) is backed up by Rachmaninoff's Rhapsody on a Theme of Paganini. There are several other recorded versions available with such soloists as Julius Katin and Vladimir Ashkenazy.

When we reach Rachmaninoff's Third Piano Concerto, the Russians get into the act again. Kiril Kondrashin conducts the Symphony of the Air and Van Cliburn, on RCA FTC 2001.

As we delve deeper into the 20th century, there is the Elgar Cello Concerto which we talked about already. Gershwin's Concerto in F coupled with a few other Gershwin piano favorites is played by Earl Wild and the Boston Pops Orchestra on RCA FTC 2101.

Then there are Ravel's two piano concertos, the D Major and G Major, played by Monique Haas with Paul Paray conducting the Orchestre National of Paris. This one is on Deutsche Grammophon/Ampex DGC 8988. Ravel's G major piano concerto is also available on another recording with Bela Bartok's Piano Concerto no. 3. On this London/Ampex (LCL80196) release, Julius Katchen plays the piano with Istvan Kertesz leading the London Symphony Orchestra.

Bartok's Concerto for Orchestra, while not a concerto in the strict sense, really belongs on this list also. An excellent reading of this is by Eric Leinsdorf with the Boston Symphony Orchestra on RCA FTC 2130. And let's not

forget Serge Prokofieff. He's represented by the Violin Concerto no. 1 in D played by Joseph Szigeti with the London Symphony Orchestra, Herbert Menges conducting. On the flip side, Szigeti plays Igor Stravinsky's Duo Concertant with Roy Bogas on the piano. This is a Mercury/Ampex release no. STC 90419. Also, in the violin department is Prokofieff's Violin Concerto no. 2. This one is coupled with the Sibelius Violin Concerto along with the Tchaikovsky Violin Concerto and Dvorak's Romance opus 11. This is a double length RCA tape (TR3-5029), with Itzhak Perlman playing the violin and Eric Leinsdorf conducting the Boston Symphony Orchestra. It's a rather long and involved tape for a basic library, but it might just fill the bill for your particular needs without too much duplication.

A recent release is the Bartok Piano Concerto no. 1 with his Rhapsody for piano and orchestra, opus 1. For this we have Geza Anda on the piano and Ferenc Fricsay conducting the Berlin Radio Symphony Orchestra, on DGG/Ampex no. C8708. New from Angel is a pairing of Khachaturian and Sibelius—one violin concerto from each (no. Y2S3715). David Oistrakh is soloist with the Moscow Radio Symphony Orchestra conducted by Khachaturian for his own concerto and Gennady Rozhdestvensky conducting for the Sibelius.

Another Angel release of special importance is the Concerto for Organ by François Poulenc. This one features Maurice Duruflé at the organ with Georges Prêtre conducting the French National Radio Television Orchestra. On the flip side of Angel ZS 35953 is Poulenc's Gloria.



SELF CONTAIN

by Michael Blake

Take that tape recorder out of the attic or the hall closet and get to work! There's gold in that tape recorder—gold, prestige, recognition, and hours of fun, as you put your machine to work in creating a highly salable product. I refer to the *self-contained feature interview*—a product that has a sales potential at any one of 3600 AM and 874 FM radio stations throughout the nation.

Discounting the 50,000-watt giants in the major cities, the 250, 1000 and 5000-watt stations which dot the countryside are hungry for local news. This is especially true since the demise of network radio. Stations are now interested in local news, depth coverage of news in your own neighborhood.

This is a how-to-do-it article. It is not an easy step-by-step plan as can be found in publications reserved for auto mechanics and quiltmakers. Rather this how-to-do-it is a potpourri of tricks and know-how that I have gathered in the past several years as News Director of a medium-sized radio station in the New York Hudson Valley. It is an AM and FM operation not unlike the radio station whose tower is just outside your town or atop your town's tallest building.

Also included in this text are three examples of the SCFI, the reasons why they were made, and the special problems encountered. Interested? Okay, let's dig further.

First of all, let's get rid of a preconceived notion. All of us at one time or another have taken our tape recorder microphones in hand and have imagined ourselves as master newsmen delivering the news to a vast news-hungry audience. We sound good. In fact, we're even a little bit better than the hacks whose voices fill the airwaves. Forget it—it t'ain't so. Radio is a craft which is learned by making countless errors and stumblings on microphone. You may sound good in the privacy of your room or in the party atmosphere, but there is a big difference when that little red light tells you that you're actually on-the-air.

So, first of all, you must realize that you are not a polished radio performer. This means that you will have to work twice as hard in making taped interviews. You will spend more time in planning the tape and you will spend more time at the editing rack.

NED FEATURE INTERVIEWS

The SCFI is what the name implies. It can stand alone. It has both an opener and a closer. It tells its own story. Here are three examples. Once you've digested them we shall discuss the special problems in each one.

Newsman: This is Michael Blake at City Hospital. Today we're visiting Police Chief Peter Jones who has been confined to the hospital for the past two weeks. It was two weeks ago that Chief Jones sustained a broken vertebra in a fall at Police Headquarters. We're here at City Hospital in Room 206. Chief Jones, how do you feel?

I feel very well now, Mike, and I want to thank you for stopping by.

Newsman: Chief, you certainly look well; how long do you think you'll be confined here at the hospital?

Chief: Possibly two more weeks.

Newsman: Chief Jones, looking around the room I see a great number of get-well cards. About how many have you received?

Chief: From the nearest I can figure, there are about 900 cards.

Newsman: Sir, have you been troubled with any of the official business of the police department during your hospital stay?

Chief: No, I'm thankful that Acting Chief Robert is doing a very fine job. I also want to thank the Mayor and members of the Common Council for coming to see me.

Newsman: Earlier you were telling me about the work performed by the City Ambulance Corps. Would you expand on this?

I would like to say that when I sustained that unfortunate accident at police headquarters, it took the Ambulance Corps less than five minutes to arrive on the scene. I would like to say this much to residents of the city, that we are indeed fortunate to have a corps. It does outstanding work, a wonderful, wonderful job in our city.

Newsman: Chief Jones, it certainly is good to see you looking as well as you do and we all wish you a speedy recovery.

Chief: Thank you, Mike, and I want to thank you

for dropping in to say hello.

Newsman: We've been visiting here at City Hospital with Police Chief Peter Jones who will be confined for possibly another two weeks. This is Michael Blake at Room 206. I return you now to our main studios.

This interview ran 2-minutes 30-seconds. It is important to note that in an interview at a hospital the interviewee, the Chief, was "on the mend" as the result of a broken bone. Except for the bone fracture, he was in excellent health. It is therefore permissible to ask him how he feels and how long he will be confined. Under no circumstance would it be permissible or in good taste to interview someone with a chronic illness or terminal sickness. The rule here is that only "on the mend" patients are candidates for taped interviews.

Upon arrival at the hospital I spoke with the Chief and made notes for the opener and closer. Next I mapped questions to ask on the basis of our general conversation. We then did an informal run-through of questions and answers. In cutting the interview I told the Chief that if either of us did not like the tape we would cut it again. This was said to put the police officer completely at ease.

The tape was perfect except that the Chief had long pauses before answering the questions put to him. The pauses were edited out. Also removed from the tape were long sentences extolling the virtues of the Ambulance Corps. It was good but much too long.

Let's examine another interview.

Newsman: This is Michael Blake. Today we're at the office of Town Assessor Harry Smith. In two weeks Mr. Smith leaves on active duty with his army reserve unit. Mr. Smith also served in the Second World War and in the Korean War. Well, Harry, what are your feelings at this point: are you at all bitter that you've again been called into service?

Assessor: No, I am not bitter, but I am not happy at the prospect of entering the army for the third time. However, when I took on the reserve obligation I realized that I would be the first to be recalled in the case of any emergency. I guess that emergency has arrived.



Newsman: Harry, when were you first called into service?

Assessor: I was first called in September of 1942. I served for 2½ years in the South Pacific. In the Korean War I was recalled to active duty in September of 1950. I guess September is my lucky month.

Newsman: Harry, I know that Mrs. Smith and the children are not happy in the prospect of your leaving home, but how are they bearing up now that you are almost ready to ship out?

Assessor: Naturally my wife is quite upset. Right now I'm still trying to impress on the children that this is not the usual two-week tour of duty and that I may be gone for an extended period.

Newsman: Actually for the children this will be your first time away from home?

Assessor: That's right. Patty is now nine years old. In fact, when Patty was born I was on duty in California some three-thousand miles away. And Billy, who is six years old, has never known his daddy to be away for any length of time.

Newsman: Harry, is there anything else you might want to say?

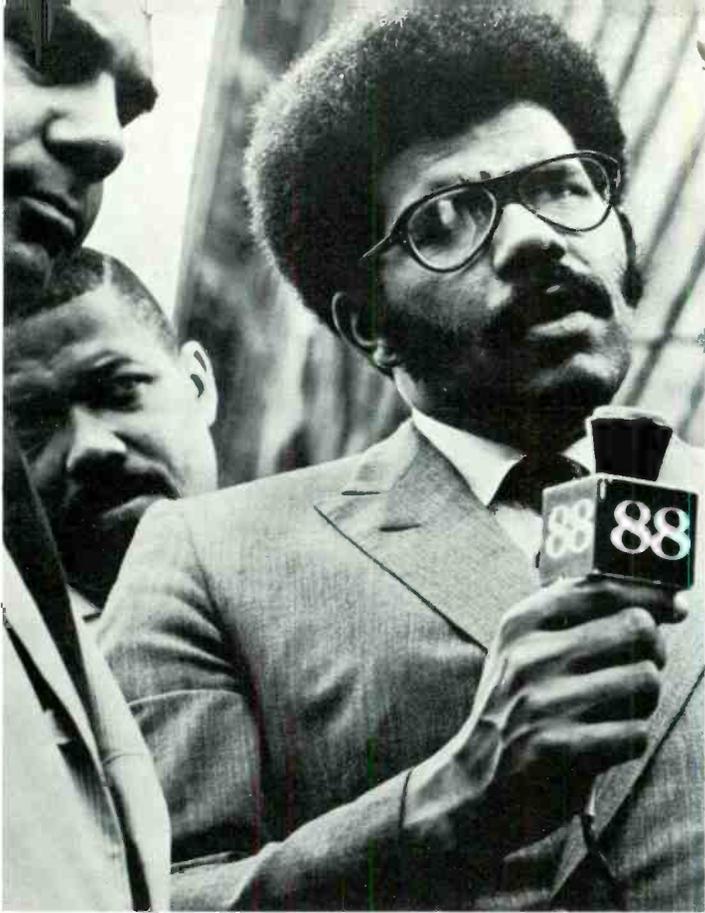
Assessor: No, except to take this opportunity to say so long for a little while to all my friends, fellow workers and associates, and all of the wonderful people I have met in the town during my two years as assessor. To those people, so long for a little while.

Newsman: Speaking for the folks at the radio station, and I think the general public, we all wish you good luck in this your third call to the service. And we hope that it won't be too long before you're back home again.

Assessor: Thank you.

Newsman: We've been speaking with Town Assessor Harry Smith who returns to active duty in two weeks along with his army reserve unit. This is Michael Blake at the Town Office Building, I return you now to our main studios.

This interview ran 2-minutes 50-seconds. With the assessor the questions were mapped as in the previous interview. The opener and close paragraphs were written out and we had an informal run-through. Because the assessor was very smooth in answering the questions the tape was almost perfect. There were only two spots which needed editing. Toward the end of the interview where he said, "Thank you" he fumbled in trying to remember my name. He finally said, "Thank you . . . Mike?" Doubtful "Mike?" was removed. Also when giving the rundown of his service career the interviewee said, "I served for 2½ years in the South Pacific," but then added "with General MacArthur." It sounded all right when he said it but "with General MacArthur" seemed very awkward on playback. It implied that the assessor and the general together had won the war. The general was faded-out with a pair of scissors.



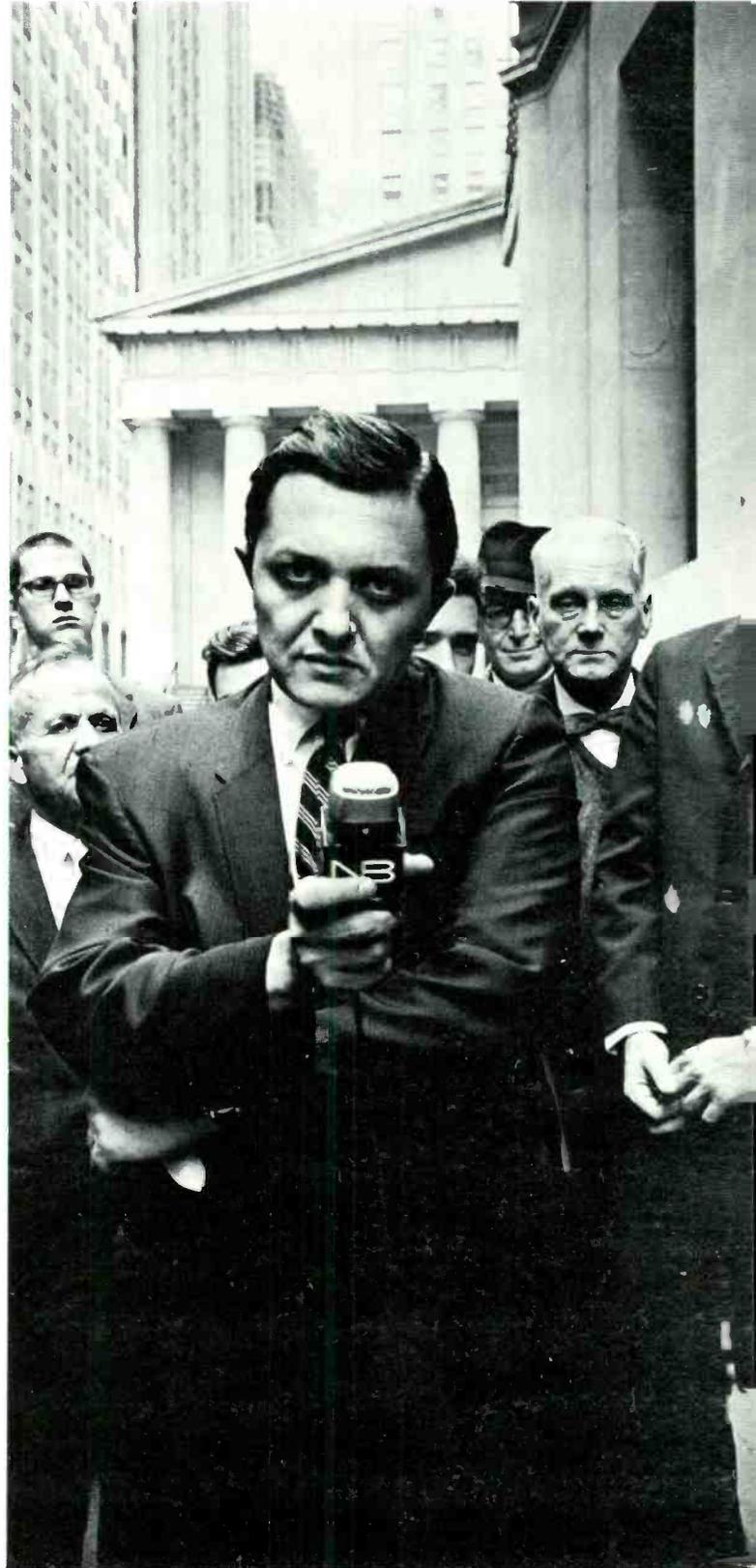
Here is a third example.

Newsman: This is Michael Blake. Today we're at the Lincoln High School at the office of William Brown, Director of Adult Education. We're here for answers, answers to questions about adult education or what one critic calls "new term madness." That is, the madcap frenzy by many adults to sign up for courses which are of doubtful worth—courses they probably never will complete. Mr. Brown, how many of the adults who register actually complete the studies?

Director: Well, Mike, we feel that here at Lincoln we have been fortunate in having a very low drop-out rate. However, there is a sizable percentage in this school as there is in every school throughout the nation.

Newsman: Sir, looking over your list of courses offered this semester, I see courses in Arts and Crafts, Physical Education for Women, Golf, and Social Dancing. How do you qualify the spending of tax dollars on such courses?

Director: That's a good question and a point I would like to clear immediately with the general public. We and the State Education Department divide the courses into two categories—vocational and recreational. The courses you have named are of a recreational nature and must be self-sustaining; they must support themselves—no tax dollars are used to





subsidize them. Other courses in auto mechanics, business law, and carpentry are vocational and do receive the tax-dollar support.

Newsman: Why are there so many drop-outs?

Director: Mostly it's poor planning on the part of the individual and the school administrators. The individual often makes a poor choice not being fully aware of what the course is really trying to accomplish. Then too, the students' new-term resolve often wanes when it is discovered that the learning process is sometimes long and tedious.

Newsman: In a nearby school system I know a

woman, a homemaker, who has signed for a welding course. She told me that she registered "just for kicks." What is your reaction to this?

Director: Here is a perfect example of poor planning. The woman should not be in the course.

Newsman: Do you think she'll finish the course?

Director: It is very doubtful.

Newsman: Mr. Brown, what is the outlook for adult education?

Director: It is generally bright. More adults than ever before are taking advantage of what is a comparatively new concept. Because adult education on the grand scale is a new concept there is still much to learn about it by both the general public and the educators who administer the programs.

Newsman: Adult education. A new semester about to begin here at Lincoln High School and at high schools throughout the nation. We have been speaking with Adult Education Director William Brown. This is Michael Blake. I return you now to our main studios.

This interview ran 2-minutes. Of the three interviews it was the easiest to make because the interviewee was a very capable public speaker and completely at ease in front of the microphone. At only one point on the tape did he become tangled in his answers. This was in the second question. He not only became tangled but he also lost the tenor of authority in his voice. Realizing that I had a bad answer, I told him so right on the tape so as not to lose levels. I said, "Bill, you stepped all over yourself in that answer. I'm going to ask the question again—and then give me a better and tighter answer." I did and he did. It was a simple matter to edit the original question and answer from the tape.

In making the SCFI there are certain rules to follow. 1. They must have a news peg even though the peg may be a little vague or contrived. 2. The interviews must be relatively short and should never exceed three minutes. 3. They must be tightly edited. There is no excuse for mistakes when there is time for both planning and editing.

It should also be remembered that you are in complete control in cutting the interviews. The people you interview may be experts in their own fields but you are the expert with the microphone. Let the interviewee understand this fully by telling him what *you* want on *your* tape. The microphone is a great

equalizer between the interviewer and the interviewee and it should be used to full advantage—*your* advantage.

So now you know a little bit about making the *SCFI*. Now we discuss the merchandising of your product. Consult with the News Director and/or Manager of the radio station nearest your home. Go prepared with a sample interview, a tape which will prove some proficiency on your part. Also go prepared with an outline of what you propose to do. Let the station officials know that your feature interviews would be submitted on a regular basis of perhaps once or twice a week. Above all, be enthusiastic about what you propose to do.

It is also a good idea to present a list of possible interviews. Many ideas will occur to you as you scan the pages of your local newspaper. Your list of proposed tapes might include an interview with the postmaster on Christmas mailings, an interview with the owner of a newly-acquired home fallout shelter or an interview with the night desk sergeant at police headquarters. Interviews with bridge managers and toll collectors make great copy. You might also list possible interviews with any number of municipal and school officials on their return from national and state conventions they all attend. How about that book that's been banned in Boston? Interview your local bookseller about it and ask him about other books that have been condemned in the past.

The list of possible tapes is endless. At the beginning of the hunting season interview both hunters and your local game warden. Cholera epidemic in China? Sit down with your county health commissioner and ask him what cholera is—is there any danger of the disease spreading to the United States?—to our county? When was the most recent case of the disease recorded in our country?

Not only can the local headlines of the day supply ideas for tapes but also the national and international stories. Russia has just exploded another superbomb—will this have an effect on our local crops? Will the fallout affect the milk supply? Ask your health commissioner or go to the county farm agent or the head of the grange and find out.

Soon ideas for tapes will come so fast and furious that you won't have time to cut them all. Driving home from the studios one day I spotted a man with

a geiger counter surveying a rock formation. Because I always carry my tape recorder in my car I stopped and asked the prospector what he was doing. It developed that the man had no serious prospect of finding uranium but as some people carry cameras and others carry binoculars and others carry walking sticks (and others tape recorders)—this man carried a geiger counter. Why not?

Getting back to the merchandising of your product it would seem elementary to mention that your sample tape should be recorded at the minimum speed of 7½-inches. However, people not in radio often forget that this is the minimum speed of most studio playback equipment. It must also be remembered that station equipment is single track which means that when you record on your dual track machine you must use a perfectly clean tape.

Another engineering phase of your project involves synchronization of your machine. Many recorder owners do not realize that their machines are really off-speed. Playback on a recorder on which the tape was cut does not pose a problem as a general rule. It is only when the off-speed recording is played back on another machine that the error is discernible.

Once you are given the go-ahead by the radio station you will want to check with the station's Chief Engineer. The engineer, usually a good-natured fellow, will be most happy to check your recorder with his timing tape against the studio equipment.

And now the last and most important rule in your merchandising program. Although the station officials will probably provide that all of your tapes be submitted *on speculation*—you must demand and receive payment for acceptances. You must “do nothin’ for nothin’” not so much for the money involved but rather because nothing will stamp you as a rank amateur more than “doing it for the experience” or “for art’s sake.” Remember that if your product has any worth it should be paid for. At first you might receive as little as two or three dollars a tape. The amount is not important but the principle of payment for your efforts is important and paramount.

Now it's up to you. I have given you the benefit of my experience with the *Self-Contained Feature Interview*. It's knowledge which came the hard way—by making mistakes. As you make progress with the technique you'll find that each interview shall become easier and easier to do. Get to work!

tape

REVIEWS

Heifetz

Mendelssohn, Violin Concerto in E Minor; Prokofieff, Violin Concerto No. 2 in G, Opus 63. Jascha Heifetz, Violin; Boston Symphony Orchestra, Charles Munch, Conductor. 8-track cartridge; RCA R8S-1083.

Music Performance Recording ★★★★★

The latest classical cartridge performances by superlative craftsmen. Heifetz' performance is typical of his usual concise, sparkling clarity, while the Munch/BSO backup remains steady and sensible. The less familiar Prokofieff work has moments of delightful lyricism pointed up by the excellent teamwork of soloist and orchestra.

The Mendelssohn concerto seems somewhat marred by a rushing tempo in the first movement, considerably different from Heifetz' earlier recordings on tape, almost as if he couldn't wait to get it done with. He slows down for the second and third movements, with a careful restraint and intonation and an absence of the over-emotionalism often heard in these latter two movements. There was some faulty stereo separation at one point in the Mendelssohn—apparently a momentary technical lapse and there's the usual complaint about interruptions for track changes, though RCA managed to get one of them between concertos.

—R.N.P.

Julian Bream

Julian Bream and His Friends: The Golden Age of English Lute Music, a two-album tape, includes Boccherini, Haydn, English songs and ballads. RCA TR3-5037. (3-3/4 ips)

Music Performance Recording ★★★★★

Julian Bream is surely as responsible as anyone for the renewal of interest in compositions of the 16th, 17th and 18th centuries. He has revived long-neglected works and, with his flawless technique and impeccable musicianship, make them marvelous recreations of a period when this kind of music flourished. On this tape we have some utterly delectable music both for guitar, in combination with other instruments, and for the solo lute. Mr. Bream is nothing short of superb in each selection.

The "friends" of the title are The Cremona String Quartet, with whom Bream plays the Boccherini Quintet in E Minor and the Haydn Quartet in E, Op.2, No. 2. Another "friend" is harpsichordist George Malcolm, with whom Bream plays Introduction and Fandango, his own composition based on a Boccherini tune. When this latter was performed at a recent Aldeburgh Festival, the audience went wild, and with good reason. The combination of the harpsichord and guitar is utterly delightful.

But the *piece de resistance* here is the Boccherini. It's an incredibly beautiful

work, rich in its unusual texture, breathtaking in its melodic invention. An absolute gem, in itself worth the price of this tape. The selections for lute are somewhat less interesting than those for guitar, perhaps because they're all short compositions of less than five minutes duration. The recorded sound is excellent. But there is one important criticism—the lack of notes. Surely Victor could have provided some commentary on the selections, particularly the lesser-known works for the lute. —G.R.

Bellini

Beatrice Di Tenda, Joan Sutherland, Josephine Veasey, Luciano Pavarotti, Cornelius Ophof, London Symphony, cond. Richard Bonynge. London LOG 90136, 7½ ips.

Music Performance Recording ★★★★★

The extraordinary gift for melodic writing which Bellini exhibits in *La Sonnambula* and *I Puritani* is not so evident in *Beatrice Di Tenda*. Nor is there the impressive dramatic force we hear in *Norma*. *Beatrice*, first presented in 1832, is Bellini's next-to-last opera. Only *Puritani* came after it; yet *Beatrice* is weaker than the composer's earlier operas.

This may be due to the fact that Bellini, normally a slow, meticulous

worker, who refused to turn out more than one opera a year, was forced to write Beatrice in just a few months, and while he was preparing for the first presentation of Norma. This was because his librettist, Felice Romani, busy with a number of other projects, kept neglecting to supply Bellini with the written material to which he would write the music. Be this as it may, the singing of Sutherland and Pavarotti make Beatrice a thrilling experience, seemingly a better work that it really is.

As usual, superlatives about Sutherland's singing must be qualified. Her execution of coloratura fireworks is breathtaking. But her singing of recitative and melody is mannered and droopy, with her usual covered tonal production. Pavarotti is brilliant as Orombello, doing some exquisite singing, particularly in the first act. Veasey is outstandingly good as Agnese, but the Filippo of Cornelius Ophof is unpleasant and "hooty" much of the time. Joseph Ward is good in the minor roles of Anichino and Rizzardo. Bonyngé conducts effectively.

The sound is excellent, up to the last 25 minutes. At that point, some engineer had a field day. The echo would do justice to the halls of Valhalla. —G.R.

Boston Pops

The Pops Goes West, Arthur Fiedler and The Boston Pops. *Included: Deep In the Heart of Texas, San Antonio Rose, Bonanza, Shenandoah, Mexicali Rose, Buttons and Bows, Sweet Betsy From Pike, Down In The Valley, Don't Fence Me In, High Noon, The Hill Country Theme, The Streets of Laredo.* RCA R8S 1095, 8-track cartridge.

Music Performance Recording ★★★★★

Arthur Fiedler, top-gun at the Bar-Pops, has taken his second wagon train across the scope of our westward expansion. Giving such rural standards as Shenandoah, Sweet Betsy From Pike, and The Streets of Laredo, that larger than Texas, symphonic sound, he creates a lasting picture of our continental limits. With guest Richard Hayman's arrangements and harmonica solos, this tape won't encounter any difficulties being rounded-up by enthusiasts of the Pops as well as western fans. —F.R.

Donizetti

La Fille Du Regiment, Joan Sutherland, Luciano Pavarotti, Monica Sinclair, Jules Bruyere, Spiro Malas, Orchestra of the Royal Opera House Covent Garden, Cond. Bonyngé. London, LOS 90143, 7½ ips.

Music Performance Recording ★★★★★

La Fille du Regiment has not been given at the Metropolitan since Lily Pons sang the role of Marie in 1943. More's the pity, for while the opera may not be Donizetti at his best, it does display his gift for combining low comedy and sentimentality. At its premiere in 1840, the opera was presented with spoken dialogue, which this recording preserves.

Given a choice between a Fille which would highlight the opera's more delicate, sentimental side, or one which would stress its low comedy, London obviously opted for the latter. The humor is not deftly pointed so much as it is laid on with a trowel. Every funny bit is wrung dry. Nowhere is there any of the spirit of the elegant, sophisticated operatic comedy this version of La Fille might have been. Nevertheless, this recording is a delight, and naturally it is La Stupenda who is largely responsible for it. She's at her best here, her virtues highlighted, her faults relatively unobtrusive. Here is sensational coloratura singing, done apparently effortlessly and always dead center on pitch, combined with her usual mannered moaning of recitative and melody and no convincing attempt at characterization.

The young, brilliant tenor, Pavarotti, is in superb form here. The other principals are excellent, too, but they overdo the comedy. Bonyngé conducts effectively. The sound could have more depth; it is less spacious than what London usually gives us. —G.R.

Ormandy/Mormon Tabernacle

Anvil Chorus: Favorite Opera Choruses. The Mormon Tabernacle Choir, Richard P. Condie, Director; The Philadelphia Orchestra, Eugene Ormandy, Conductor. Bizet: "Les

Voici" from Carmen; Mascagni, Cavalleria Rusticana: The Lord Now Victorious; Gounod, Faust: Soldier's Chorus; Wagner, Tannhauser: Hail, Bright Abode; Puccini, Madam Butterfly: Humming Chorus; Verdi, Il Trovatore: Anvil Chorus; and others. 7½ ips. Col. MQ960.

Music Performance Recording ★★★★★

If you've ever had company who "just love opera," and actually mean they know a few favorite melodies from one or two Verdi opuses, this is the tape to play for them. No more searching through three hours of Lohengrin for one fragment they recognize. If it's something they like from grand opera, chances are it's right here. It may also contain a few of your own favorites as well: the choruses are well chosen, superbly performed, well recorded.

Selection is all-important in a collection of this type, and there is just enough balance between the robust and the sublime to bring off a very well programmed listening experience. There's the vibrance and bustle of the Carmen reprise, the sweet sadness of Mascagni and Puccini, the scintillating Gounod, the variegated and stately Wagner—all the favorites are here, interspersed with a programmatic originality that makes the whole inescapably pleasant listening. Ormandy's Philadelphians have joined forces with the Mormon Tabernacle Choir for a superbly brilliant performance, well recorded by Columbia audio engineers. —W.G.S.

—W.G.S.

Collection—Classical

Sky-Bound Stereo—Classical Style. *Featuring excerpts from works by Rodrigo, Tchaikovsky, Rossini, J.C. Bach, Mozart, J. Strauss, Grofe, Khachaturian, Mendelssohn, Stamitz, German, Dvorak, Copland, Pokorny, Wagner, Handel, Dohnanyi and Benjamin.* Playing time: 184 minutes. American Airlines CW-215. 3 3/4 ips. \$23.95.

Music Performance Recording ★★★★★

For what it is, this is a thoroughly enjoyable potpourri of medium-

schmaltz. It's a pop-oriented classical tape with just enough "heavier" items thrown in to justify the classical label. It's one of the first classical airline tapes we've heard that doesn't jump from lighthearted pop fare to Tebaldi singing an aria from *Lucia*. At least in that respect, it's a vast improvement over its predecessors—it's a consistent program of listenable, enjoyable, almost-background type music.

All the time-worn favorites are there (hooray!)—a snatch of Tchaikovsky's *Pathetique*, a bit of *William Tell*, a movement from *Eine Kleine Nachtmusik*, a Strauss Polka, Grofe's *On the Trail*, and many, many others of this ilk.

As with the predecessors, this tape has a syrupy-voiced announcer introducing and outro'ing each selection. Him, we could do without. Better Ampex should have improved the format of presenting the album liner listings, which are as confusing as ever (and in very small print). But still, the tape is a sheer delight, and thank you, Mr. Ampex for some consistent programming. —W.G.S.



Ronnie Aldrich

For *Young Lovers*. *Ronnie Aldrich and his two pianos with the London Festival Orchestra playing: Love is Blue, Valley of the Dolls, Up Up and Away, To Sir with Love, Impossible Dream, Born Free, What the World Needs Now, and others.* London/Ampex Phase 4, LPL 74108. 7½ ips. \$7.95.

Music	★★★★
Performance	★★★★
Recording	★★★★

It's always a happy marriage when London's Phase 4 is used as the vehicle for Aldrich's dual pianos. The recording is lush, vibrant, tuneful, well-arranged, au courant, danceable, listenable—we run out of adjectives after a while. It's just grand, and not just for lovers, although we can certainly see this tape setting the mood for that special someone. It's darn good from all viewpoints. —W.G.S.

Eddy Arnold

Songs of the Young World, Eddy Arnold with the Orchestra of Bill Walker. Included: Since You've Been Loving Me, Little Green Apples, Wichita Lineman, I Love How You Love Me, The Sunshine Belongs to Me, They Don't Make Love Like They Used To, I Get Baby On My Mind, Tender Is Her Name, Take A Little Time, Sweet Marilyn, I'm In Love With You, Suddenly My Thoughts Are All of You. RCA Victor P8S 1417, 8-Track cartridge.

Music	★★★★
Performance	★★★★
Recording	★★★★

As he is referred to, "The Country Como," Eddy Arnold proves once again he is a master of interpreting every phase of popular music. No matter what generation it belongs to. Positively one of his best tapes, Ed shines with *Little Green Apples*, *I Get Baby on My Mind*, and *Tender Is Her Name*. The Arnold style makes all other versions of these contemporary slices, non-existent. A good bet for any permanent library.

—F.R.

Frank Chacksfield

The Great TV Themes. Frank Chacksfield and his orchestra playing these TV show themes: Peter Gunn, Doctor Kildare, Man from UNCLE, Peyton Place, Alfred Hitchcock and others. London stereo cassette, LXX 84077. \$7.95.

Music	★★★★
Performance	★★★★
Recording	★★★★

TV theme music isn't necessarily this reviewer's idea of a pleasant evening of relaxing with tape, but it does have its uses. For one thing, there's always that *one* program with a theme that you especially like—what'sitsname again—well anyway, now you can buy this cassette which doesn't take up very much room, since the theme you like probably isn't on it anyway. But there are a few classics, such as the now-infamous Gounod "Funeral March of a Marionette," otherwise known as the Alfred Hitchcock theme. This number alone is worth the price of the cassette (although we did prefer the old disc Boston Pops version of this). Great music it's not; it's okay, interesting, and an occasional pasttime, but not much more. —W.G.S.

Ray Conniff

Ray Conniff's Hawaiian Album. Ray Conniff Singers with orchestra and Fred T. Tavares playing fender steel guitar, in a collection of 11 Hawaiian songs that include Blue Hawaii, Beyond the Reef, The Hawaiian Wedding Song, Sweet Leilani and I Wish They Didn't Mean Goodbye. 7½ ips open reel. Columbia CQ 967. \$7.95.

Music	★★★★
Performance	★★★★
Recording	★★★★

So-called Hawaiian music has had a resurgence of popularity ever since the golden islands achieved statehood. True, this genre has a particular charm and appeal of its own, and if you happen to be a Hawaiian music fan or a Ray Conniff fan or both, you'll enjoy this recording. Conniff's stylistic arrangements remove a lot of the sameness that we'd ordinarily expect. Often, the steel guitar is the only hint we have (aside from the lyrics) what the supposed nationality of this music really is. It's a good job all around,

which we've rather come to expect from Conniff's group, but it's missing the very heavy-handed beat and bubbling enthusiasm of his earlier releases. —W.G.S.

John Gary

The One and Only John Gary. *Selections include: The Song From Moulin Rouge, Scarlet Ribbons, Warm and Willing, Bumble Bee, There Goes My Heart, A Quiet Thing, It Had Better Be Tonight, Joy In The Morning, Forget It, Once Upon A Summer Afternoon.* RCA Camden C8S 1059, 8-Track cartridge.

Music Performance ★★★
Recording ★★★

A most versatile performer, young Mr. Gary is represented on a tape which should prove to be his best to date. With more and more exposure each day on television and in clubs, his three octave range has become an instrument. And each song etched on tape becomes a living tribute that will be remembered for generations to come. By far the best selections are Scarlet Ribbons, There Goes My Heart, and It Had Better Be Tonight. —F.R.

George M!

Joel Grey in George M! *Original Broadway Cast with musical direction by Jay Blackton. Including: Overture, Give My Regards To Broadway, Forty-Five Minutes From Broadway, Mary, Yankee Doodle Dandy, You're A Grand Old Flag, Over There, and twenty-four other songs.* Columbia OQ 1023. Recorded at 7½ ips. \$9.95.

Music Performance ★★★
Recording ★★★

Not only is this an Original Cast tape with the multi-talented Joel Grey, but a musical portrait of the man who owned Broadway . . . George M. Cohan. He was utterly brash, flamboyant, and extremely proud. Cohan lived and loved show business, and is remembered as much today as he was a half century ago. Grey, very seldom sounds like George M., but what he offers is as if Cohan were directing

from within him. All the favorites are here and many long forgotten songs that deserve a revival. A truly important tape that should be in every library. —F.R.

Johnny Mathis

Up, Up and Away. *Johnny Mathis and orchestral accompaniment singing Up, Up and Away; Far Above Cayuga's Waters (!); Where are the Words and two others from "Doctor Doolittle;" The More I See You; I Won't Cry Anymore; I Thought of You Last Night; Drifting; The Morningside of the Mountain.* 8-track stereo cartridge. Columbia 18 KO 0332. \$6.95.

Music Performance ★★★
Recording ★★★

Since he's one of our favorite popular singers, it's hard to be completely objective about Johnny Mathis. Suffice it to say he does his usual magnificent job with relatively obscure (and rightfully so) raw material. He actually makes the music sound much better than it has any right to. This 8-track cartridge has the inimitable Mathis delivery with an unobtrusive orchestral accompaniment. It also has fairly poor frequency response, plus the usual amount of noise level and wow that we've come to associate with continuous-loop cartridges. —W.G.S.

101 Strings

Million Seller Hits, Vol. 4. *101 Strings playing: Days of Wine and Roses, Can't Take My Eyes Off of You, Canadian Sunset, Dear Heart and others.* Audio Spectrum/Ampex ASE 5090. 3-3/4 ips. \$4.95.

Music Performance ★★★
Recording ★★★

Pleasant, syrupy sweet and innocuous and excellent for background or mood music—that's the first reaction to this new release, and the second and third reactions. The fact that reviewer played it more than once at least indicates that the tape has merit as a background music program, but doesn't rate much beyond that. Fine to add to the mood music collection or for dubbing onto a longer tape, since this one ends far too soon to set any kind of mood definitively. —W.G.S.

Roslyn Kind

Give Me You, *Roslyn Kind with Lee Holdridge Orchestra. Including: Give Me You, The Fool on the Hill, Summer Tree, If You Must Leave My Life, Can I stop the Rain?, It's a Beautiful Day, Who Am I? A Modern Day Version of Love, It was Only a Dream, I Own the World, The Shape of Things to Come.* RCA Victor, P8S 1438, 8-Track cartridge.

Music Performance ★★★
Recording ★★★

Unlike her famous sister Barbra Streisand, Roslyn Kind sings the memorable contemporary, and sings with great gusto and feeling. It's amazing after hearing this her first tape, that she not only is just eighteen years of age but that she has never had a singing lesson in her life. In a sincere effort to make it big on her own one must be thankful for the absence of pages of sugary package notes that usually accompany first efforts of illustrious brothers, sisters, mothers and uncles. Best efforts show through on Jim Webb's If You Must Leave My Life, Who Am I?, and The Fool On The Hill. —F.R.

Si Zentner

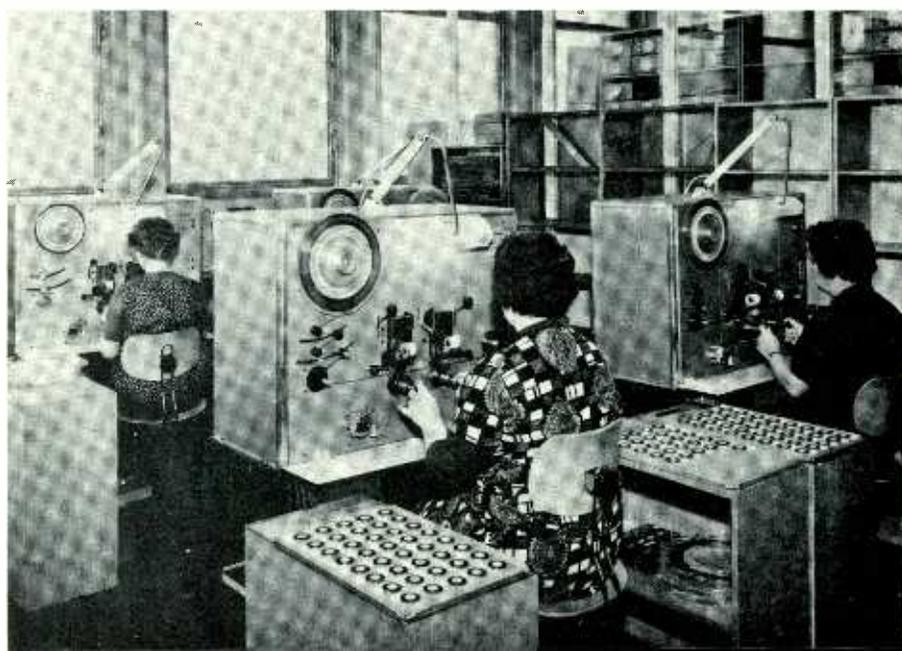
The Best of Si Zentner. *Selections are: Up A Lazy River, More, Moon River, Walk On The Wild Side, The James Bond Theme, Desafinado, The Stripper, Walk Don't Run, Watermelon Man, Calcutta, From Russia With Love, African Waltz.* Liberty STL 7427-C, recorded at 7½ ips. \$7.95.

Music Performance ★★★
Recording ★★★

Here is the cat who brought the trombone and the twist together in a collection entitled (what else) "The Best Of." Actually these taped gyrations are still quite infectious. Mr. Zentner, passes quickly through his twist-bag to render impressionable items the likes of From Russia With Love, More, and Walk On the Wild Side. Once annalized as the logical replacement for Tommy Dorsey, Si, falls far short of this goal as a musician. But his orchestra latches onto the excitement Dorsey's aggregation enjoyed for so many years. —F.R.

DEUTSCHE GRAMMOPHON'S CASSETTE DUPLICATION PLANT OPENS

Said to be the most modern as well as the largest tape duplication facility in Europe is this Deutsche Grammophon Gesellschaft tape plant in Hanover, Germany. Cassettes start out as large reels of blank tape on duplication units. Picture at top left shows four master tape units at left, eight copying units at right. Girls transfer bulk recorded tapes to cassette hubs. In the meantime, farther along the assembly line, girls complete cassette manufacture in one place, including screw locking operation of both cassette halves. Cassettes can also be sonically welded, simplifying manufacture. Then an operator affixes labels, and the finished cassette is ready for a quality control check which includes a test for recording level and excess friction within the cartridge.







by Erwin Bagley

Although no two people will agree on what constitutes a basic library of classical music on tape, here is a listing compiled by our reviewers and editors. In our judgement, it provides an excellent check list against which to compare your library, and includes some interesting pointers for new directions in which you might wish to expand. Not all of the choices were unanimous, and not all of each reviewer's favorites have been included. But we believe it can help you create a library of lasting music. Because most music lovers prefer to specialize in a given type of music—opera, or chamber music, for example, they may not be aware of some of the most appealing music in other categories.

The next few pages list the principal categories of serious music—operas, symphonies, concertos, string quartets and so on—divided into three groups. In the first column appear those works we believe are indispensable to any well-rounded collection. In the second are works which are desirable but not absolutely essential. For the listener who's interested in exploring new directions in music, the third column includes some suggestions worthy of further study.

In most cases where the music is available on tape, we have recommended a prerecorded tape version of it—individual choices (where there was a choice of performer or recording) being made by our reviewers after extensive back-and-forth debate. In those cases where there is no recording of a work on prerecorded tape, or where all available recordings are considered inferior by our reviewers, no listing of artist or tape label will follow the selection. In these cases, we recommend you consult your FM program guide to find out when these works will be broadcast in your community, and tape them off the air.

The rapid expansion of the prerecorded tape catalogue during the past year is a trend we expect to continue during 1969. The addition of new recordings each month may change the choice of performance available to you when you decide to make your purchase. Thus we suggest you consult an up-to-date catalogue of prerecorded tapes before making purchases.

A Recommended
Basic Library
of Serious Music

Essential	Desirable additions	Off the Beaten Track
Concertos		
<p>Bach—Harpichord Concertos Nos. 1, 2—Munchinger (London)</p> <p>Beethoven— Piano Concerto No. 3—Serkin (Columbia) Piano Concerto No. 4—Cliburn (RCA) Piano Concerto No. 5—Backhaus (London) Violin Concerto—Milstein (Angel)</p> <p>Brahms— Piano Concerto No. 1—Katchen (London) Piano Concerto No. 2—Cliburn (RCA)</p> <p>Bruch—Violin Concerto in G minor—Heifetz (RCA)</p> <p>Chopin— Piano Concerto No. 1—Rubinstein (RCA) Piano Concerto No. 2—Vassary (DGG)</p> <p>Franck—Symphonic Variations—Boult (London)</p> <p>Gershwin— Concerto in F—Lowenthal (Vanguard) Rhapsody in Blue—Wild (RCA)</p> <p>Grieg—Piano Concerto—Pennario (Capitol)</p> <p>Handel— Violin Concertos—Menuhin (Angel) Horn Concertos— Wind Concerto No. 2—</p> <p>Liszt—Piano Concerto No. 1—Mendelssohn—Richter (Philips) Piano Concerto No. 1—Serkin (Columbia) Violin Concerto—Heifetz (RCA)</p> <p>Mozart— Piano Concerto No. 20—Haskil (Mercury) Piano Concerto No. 24—Haskil (Mercury)</p> <p>Paganini—Violin Concerto No. 1—Ricci (Decca)</p> <p>Rachmaninoff—Piano Concerto No. 2—Janis (Mercury)</p>	<p>Bach—Violin Concertos Nos. 1 and 2—Oistrakh (DDG)</p> <p>Beethoven— Piano Concerto No. 1—Serkin (Columbia) Piano Concerto No. 2—Katchen (London)</p> <p>Bpccherini—Cello Concerto</p> <p>Dvorak—Cello Concerto—Starker (Mercury)</p> <p>Handel—Organ Concertos—Richter (London)</p> <p>Haydn—Cello Concerto—Rostropovich (London)</p> <p>Liszt—Piano Concerto No. 2—Richter (Philips)</p> <p>Mozart— Piano Concerto in B flat (K. 450) Bernstein (London) Piano Concerto in G (K. 453) Anda (DGG) Violin Concerto No. 4—Heifetz (RCA Victor) Violin Concerto No. 5 Horn Concertos Nos. 1–4—Brain (Angel)</p> <p>Prokofieff—Violin Concerto No. 1—Milstein (Angel)</p> <p>Rachmaninoff— Piano Concerto No. 3—Cliburn (RCA) Rhapsody—Pennario (Capitol)</p> <p>Saint-Saens—Piano Concerto No. 2—Entremont (Columbia)</p>	<p>Bach—Concertos for Two Harpsichords Gerlin (Nonesuch)</p> <p>Bloch—Schelomo—Rose (Columbia)</p> <p>Hindemith—Der Schwanendreher</p> <p>Mozart—Sinfonia Concertante (K. 364)—Oistrakhs (London)</p> <p>Poulenc—Concerto for Organ—Durwfle (Angel)</p> <p>Ravel—Piano Concertos Haas (DGG)</p> <p>Shostakovich—Piano Concerto</p>

Essential	Desirable additions	Off the Beaten Track
Schumann—Piano Concerto— Katchen (London) Tchaikovsky— Piano Concerto No. 1— Cliburn (RCA) Violin Concerto—Oistrakh (Angel) Telemann— Trumpet Concerto in D Oboe Concerto—Koch (Archive) Vivaldi—Four Seasons— Tilegant (Nonesuch)		

String Quartet

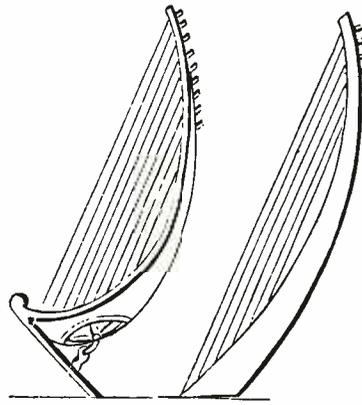
Beethoven—Complete Amadeus (DGG) Brahms—Quartets (complete) Haydn—Op. 33 (complete) Weller (London) —Op. 76 No. 3 Amadeus (DGG) —Op. 77 (complete) Mendelssohn—Op. 13 —Op. 44, No. 3 Mozart—Quartets 14–19— Julliard (Epic) —Quartets 20–22 Schubert— Quartet “Death and the Maiden”—Amadeus (DGG) Quartets (Complete) Schumann— Quartets in F and A Quartet in A Minor	Bartok—Quartets—Hungarian (DGG) Borodin—Quartet in D. Debussy—Quartet Dvorak—American Quartet Haydn—Op. 17 (complete) Ravel—Quartet Smetana—Quartet in E minor.	Boccherini—Four Quartets Hindemith—Quartet No. 3—
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Other Chamber Music

Beethoven—Archduke Trio Trio in D—Heifetz (RCA) Brahms— Clarinet Quintet Piano Quintet—Julliard (Epic) Mendelssohn— Octet— Mozart— Clarinet Quintet—Vienna Octet (London) Divertimento No. 2—Szell (Epic) Serenade No. 10 Serenade No. 11 Serenade No. 12 Schubert— Octet— “Trout” Quintet—P. Serkin (Vanguard) Trio in B flat—Heifetz (RCA)	Beethoven— Quintet for Piano and Winds Ashkenazy (London) Serenade in D Brahms—Horn Trio Piano Trio in B Dvorak—Quintet in E flat Quintet in G Hydn—Trios 1–3 Mozart—Two Piano Quartets Ravel—Trio Schoenberg—Verklaerte Nacht Mehta (London) Stravinsky—Duo Concertant	Bloch—Piano Quintet Boccherini—Guitar Quintet Chausson—Concert for Piano, Violin and String Quartet Debussy—Sonata for Flute, Viola and Harp Hindemith—Kleine Kammer- musik Hummel—Septet Janacek—Concertino Nielsen—Wind Quintet Piston—Piano Quintet Riegger—Wind Quintet
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Essential	Desirable additions	Off the Beaten Track
Opera		
Beethoven—Fidelio (London) Bizet—Carmen (London) —Pearl Fishers (Angel) Donizetti—Lucia (Angel) Gluck—Orfeo Gounod—Faust (Angel) Leoncavallo—Pagliacci (DGG) Mascagni—Cavalleria Rusticana (DGG) Mozart—Marriage of Figaro (London) —Don Giovanni (London) —Magic Flute (DGG) Mussorgsky—Boris Godunov (Angel) Offenbach—Tales of Hoffmann (Angel) Puccini—La Boheme (RCA) —Madama Butterfly (RCA) —Tosca (London) Rossini—Barber of Seville (London) Verdi—Aida (RCA Victor) —Rigoletto (London) —La Traviata (RCA) —Il Trovatore (RCA) Wagner—Die Meistersinger (RCA) —Tristan und Isolde (London) —Die Walkure (RCA)	Bellini—Norma (RCA) I Puritani (London) Borodin—Prince Igor Donizetti— Don Pasquale (London) Elisir d'Amore (London) Mozart—Cosifantutte (Angel) Orff—Carmina Burana (Parliament) Puccini— Gianni Schicchi (London) Turandot (RCA) Smetana—Bartered Bride (Artia) Strauss— Der Rosenkavalier (Angel) Salome (London) Verdi— Falstaff (RCA) Forza del Destino (London) Otello (RCA) Wagner— Parsifal (Philips) Flying Dutchman (RCA)	Berg—Wozzeck (DGG) Berlioz—Beatrice et Benedict (Oiseau Lyre) Debussy—Pelleas et Melisande (London) Giordano—Andrea Chenier (Angel) Handel—Acis et Galathea —Alcina (London) —Sosarme Mascagni—L'Amico Fritz Montemezzi—L'Amore dei Tre Re Puccini—Manon Lescaut (London) Purcell—Dido and Aeneas Ravel—L'Heure Espagnole Rossini—L'Italiana in Algeri (London) Strauss—Ariadne auf Naxos —Elektra (DGG) Tchaikovsky—Eugen Onegin —Pique Dame

Choral		
Bach—Cantata No. 140 (Archive) —Mass in B minor (Archive) —St. Matthew Passion (London) Beethoven—Missa Solemnis (Columbia) Berlioz—L'Enfance du Christ (Oiseau-Lyre) —Requiem (RCA) Brahms—German Requiem (DGG) Handel—Messiah (Philips) Haydn—The Creation (Vanguard) Mozart—Requiem (London) Palestrina—Missa Papae Marcellini (DGG) Prokofiev—Alexander Nevsky (Angel) Purcell—Come Ye Sons of Art (Vanguard) —Indian Queen	Bach—Cantata No. 4 Cantata No. 80 (Archive) Easter Oratorio St. John Passion Debussy—Martyre de Saint-Sebastien Dvorak— Stabat Mater Gabrieli—Canzoni Handel—Israel in Egypt Judas Maccabaeus Haydn— The Seasons (DGG) Lord Nelson Mass (London) Mass in time of war Mendelssohn—Elijah Mozart—Exsultate, Jubilate Mozart—Vesperae Solemnnes de Confessore Poulenc—Gloria in G (Angel)	Bach—Cantata No. 1 —Magnificat in D (Archive) —Arias (Decca) Cherubini—Requiem Gregorian Chant Handel—Dettingen Te Deum Janacek—Slavonic Mass (DGG) Stravinsky—Oedipus Rex Victoria—Missa Pro Defunctis Vivaldi—Gloria —Juditha Triumphans The Play of Daniel (Decca) Madrigal Masterpieces (Vanguard) Mozart—Masonic Music (Columbia)



Essential	Desirable additions	Off the Beaten Track
Rossini—Stabat Mater Schubert—Mass in E Flat (Decca) Verdi—Requiem (Angel)		

Vocal Music

Canteloube—Songs of the Au- vergne (Vanguard) Loewe—Ballads Mahler—Kindertotenlieder (DGG) Mozart—Songs Mussorgsky—Songs and Dances of Death Schubert—Songs—Souzay (Philips) —Die Winterreise —Die schoene Muel- lerin (DGG) Schumann—Dichterliebe (DGG), Strauss—Songs	Berlioz—Nuits d'Ete (London) Debussy—Chansons de Bilitis Mahler—Lied von der Erde (RCA Victor) Villa-Lobos—Bachianas Bra- sileiras No. 5 Weill—Songs Wolf—Italienisches Liederbuch Songs	Britten—Serenade for Tenor (London) Falla—Songs Hindemith—Marienleben Schoenberg—Pierre Lunaire
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Operettas and Light Music

Gershwin—Porgy and Bess (Decca) Gilbert & Sullivan— Mikado (London) Patience (London) Pinafore (London) Princess Ida (London) Kern—Show Boat (Columbia) Lehar—Merry Wildow (Angel) Loesser—Guys and Dolls (Decca) Offenbach—Orpheus in Hades Porter—Kiss Me Kate (Capitol) Rodgers—Oklahoma! (Decca) —South Pacific (Richmond) Strauss—Fledermaus (London) —Gypsy Baron	Bernstein—West Side Story (Columbia) Gilbert & Sullivan— Iolanthe (London) Pirates of Penzance (London) Ruddigore (London) Yeomen of the Guard (London) Lane—Finian's Rainbow (RCA) Lerner & Loewe— My Fair Lady (Columbia) Loesser—Guys & Dolls (Decca) Rodgers & Hammerstein— Carousel (Capitol) King & I (Capitol) Romberg— Student Prince (Columbia) Desert Song (RCA)	continued next month
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Will your tape recorder sound as good in December as it did in May?

How do you *know* that a tape recorder will sound as good in seven or eight months as it does when it's new? You obviously don't. Not with most. But you *do* with an Ampex player/recorder. Because of the exclusive, deep-gap Ampex heads.



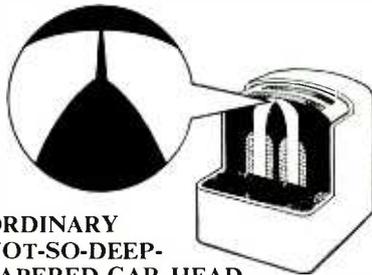
AMPEX 755 TAPE DECK

Let us explain. The head is the most important part of any player/recorder. It is an electromagnet which puts sound on magnetic tape (when recording) and recreates sound from patterns on the tape (playback).

The rest of the recorder is designed to do nothing more than get the most out of the heads.

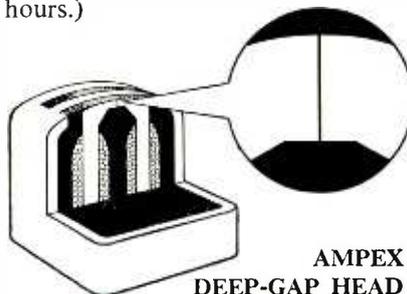
All tape heads are produced to have the smallest possible air gaps between their poles. Because the smaller the gap, the higher the frequency that can be recorded or played back at a given tape speed.

It would stand to reason then, that every manufacturer would try to make its head gaps as small as possible. And they do . . . at the *top* where the tape meets the head. The trouble is, they have a great deal of difficulty keeping the gaps *straight*.



ORDINARY NOT-SO-DEEP-TAPERED-GAP HEAD
(Typical head used by other manufacturers)

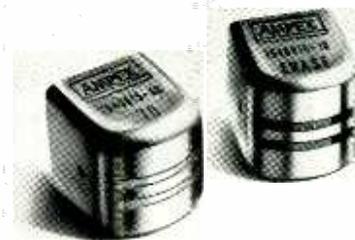
Take a look at the drawing of the ordinary tape head above. It has a pole gap distance of about 1/30th the width of a human hair. *To begin with.* But, as the head begins to wear down, the pole gap begins to widen. And the frequency response begins to deteriorate. So the unit can't possibly sound the same in December as it did in May. And in a relatively short time the head has to be replaced. We call this kind of typical head "*tapered shallow-gap head.*" (Under ordinary circumstances it wears out in 500 to 1000 hours.)



AMPEX DEEP-GAP HEAD
(Exclusively on Ampex Player/Recorders)

But *Ampex deep-gap heads* don't have that problem. Because they consist of two parallel poles brought together to the precisely proper distance by a unique process. This manufacturing technique is exclusive with Ampex. It's much more time consuming, and requires painstaking microscopic precision. But, it's worth it. Because, even as Ampex heads begin to wear down, *the gap distance continues to remain constant.* And so does your frequency response!

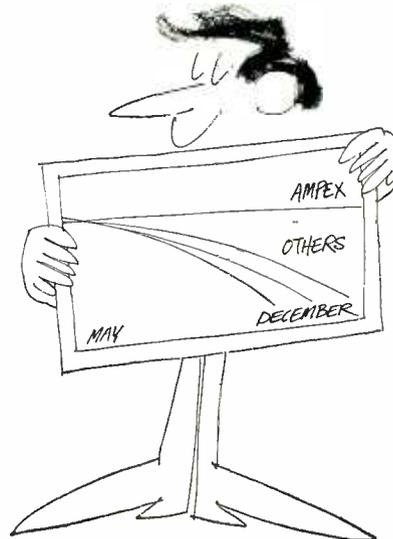
And in addition, because Ampex does not use pressure pads, Ampex deep-gap heads wear much more slowly. Don't be surprised if they last well over twelve years, even if you use your player/recorder two hours a night, every night. (That's about 10,000 hours, as compared to about 500-1000 for other tape heads.)



So, if you're confused by all kinds of claims for frequency response, remember that frequency response usually drops after use. Except with Ampex player/recorders. There's no mystery. (1) *Ampex heads last much longer.* (2) *Even when they do wear, the gap never varies and neither does the frequency response.* Which is why you'll be ahead with Ampex. Way ahead.



AMPEX CORPORATION/CONSUMER EQUIPMENT DIVISION
2201 WEST LUNT AVENUE/ELK GROVE, ILLINOIS 60007





Finest tape, finest package for the audio-file

After we had developed BASF, the "ageless" recording tape, we realized it didn't make much sense to package it in an ordinary cardboard box offering only temporary protection at best.

A tape designed to preserve the original brilliance and fidelity of your recordings for generations deserves a permanent storage cabinet all its own.

So we packaged our tape in the "Perma-store" library box, a sturdy, decorator-styled container molded of rigid, impact-resistant plastic. The "Perma-store" package not only offers permanent protection against dirt and physical damage . . . it enables you to build a tape library that looks as good as it sounds.



And yet BASF, the world's finest tape and the only tape exclusively packaged in a permanent plastic container, costs no more than the tape you are buying now. All in all, it's the perfect tape for the audiophile's audio-file.